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NUMERICAL ANALYSIS OF
DOUBLE DELTA ANTENNAS
VOLUME II

by

Achmad Chalid

December 1988

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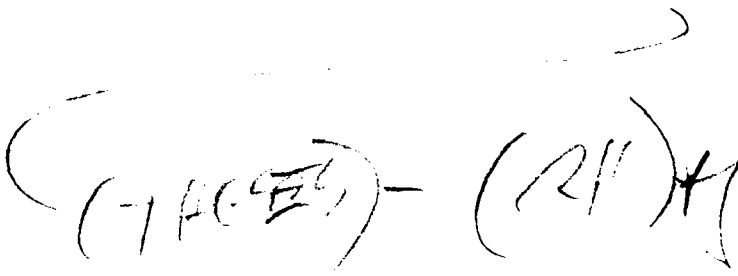
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<p>The Double Delta antenna is an HF communication antenna which exists in many forms throughout military communication commands. Performance characteristics for existing designs are presently unknown and are required in order to recommend an optimum design.</p> <p>This thesis investigates Double Delta antennas used by the US Army (lowband and highband), the US Air Force (lowband and highband), and a commercial model. Selected models are analyzed by a computer simulation method using the Numerical Electromagnetics Code (NEC). The antenna designs are investigated to determine optimum performance characteristics over the 2 - 30 MHz range of frequencies. The parameters calculated were input impedance, VSWR, and antenna gain radiation patterns. For the performance of the antennas when sited near lossy ground, the Sommerfeld method was employed. Finally the results of the evaluation are presented and recommendations are made.</p>				
				
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Volume II

by

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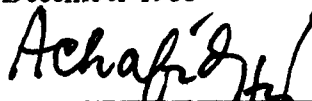
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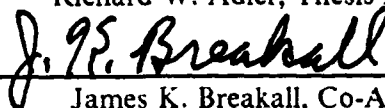


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NUMERICAL ANALYSIS OF DOUBLE DELTA ANTENNAS

VOLUME II

This volume contains Appendix C, the plots of input impedance, VSWR, and maximum gain versus frequency and plots of radiation patterns for each frequency for the Army, the Air Force, and the ESI 32A2A Double Delta antennas. Descriptions of the Army, the Air Force, the ESI 32A2A Double Delta antenna, and method and results of the investigation were described in Volume I.



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APPENDIX C. PLOTS OF INPUT IMPEDANCE, VSWR, AND
MAXIMUM GAIN VERSUS FREQUENCY AND PLOTS OF RADIATION
PATTERNS FOR EACH FREQUENCY

ARMY LO-BAND DD ANTENNA

VSWR VS FREQ/PERF.GND/ $Z_0=50$ OHMS

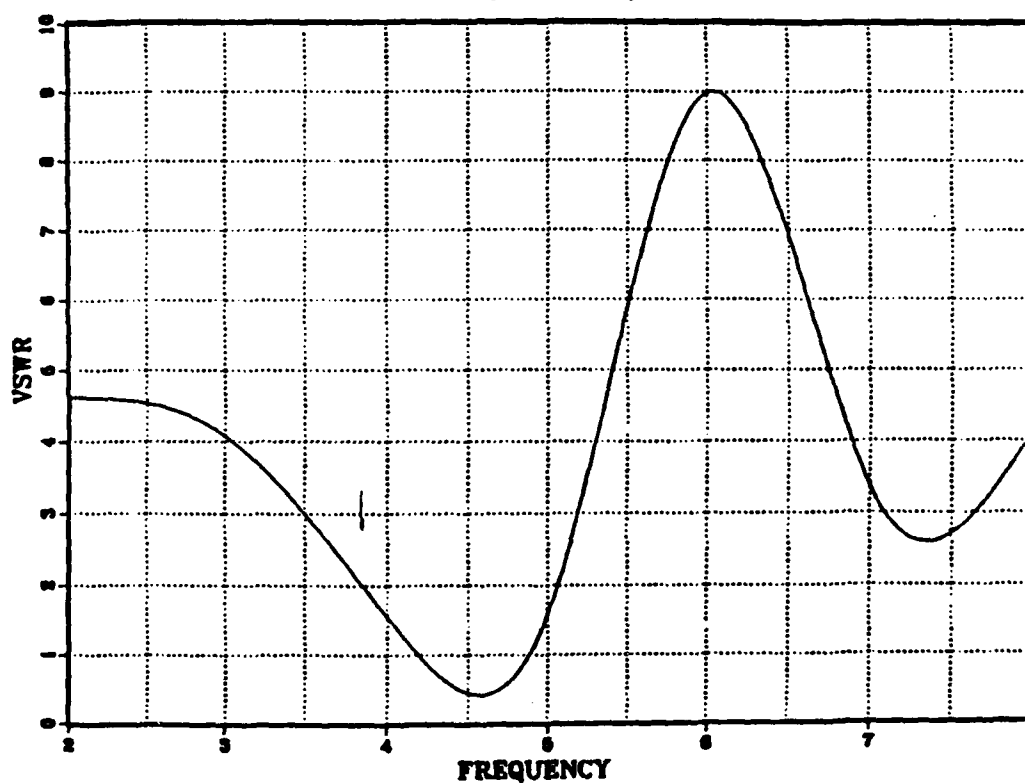


Figure 6. VSWR vs freq. for the Army Lowband DD antenna over perfect ground
(normalized impedance = 50 ohms)

ARMY LO-BAND DD ANTENNA

VSWR VS FREQ/PRF.GND/ $Z_0=300$ OHMS

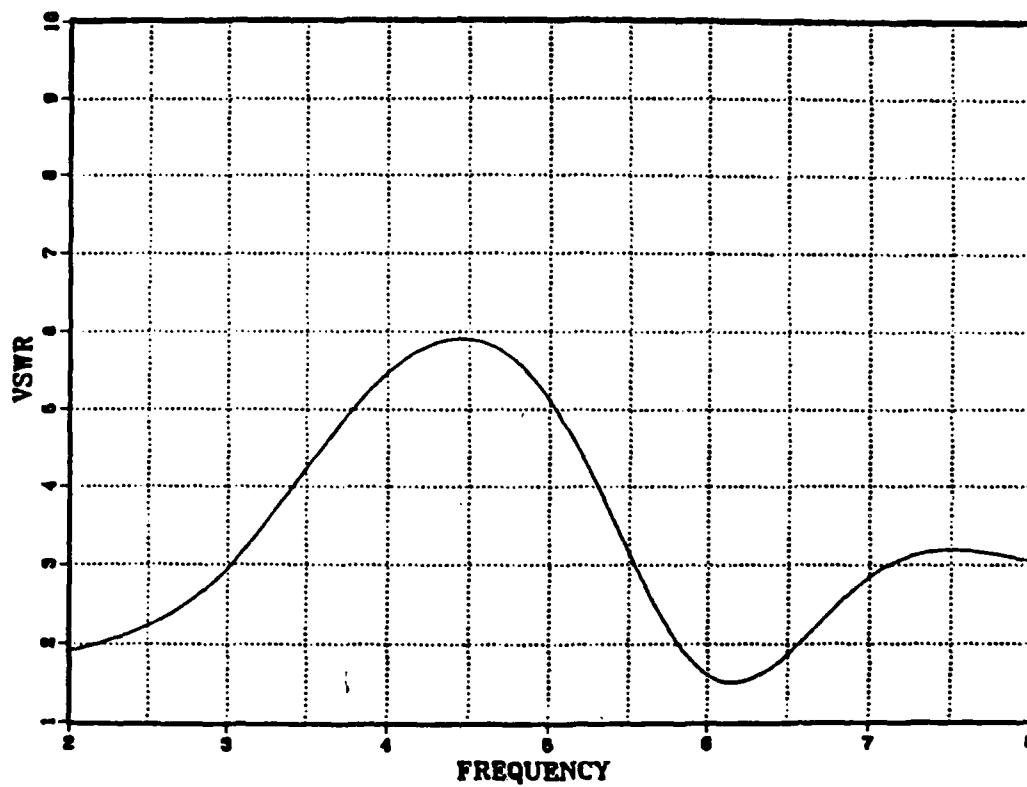


Figure 7. VSWR vs freq. for the Army Lowband DD antenna over perfect ground
(normalized impedance = 300 ohms)

ARMY LO-BAND DD ANTENNA

VSWR VS FREQ/PRF.GND/Z0=600 OHMS

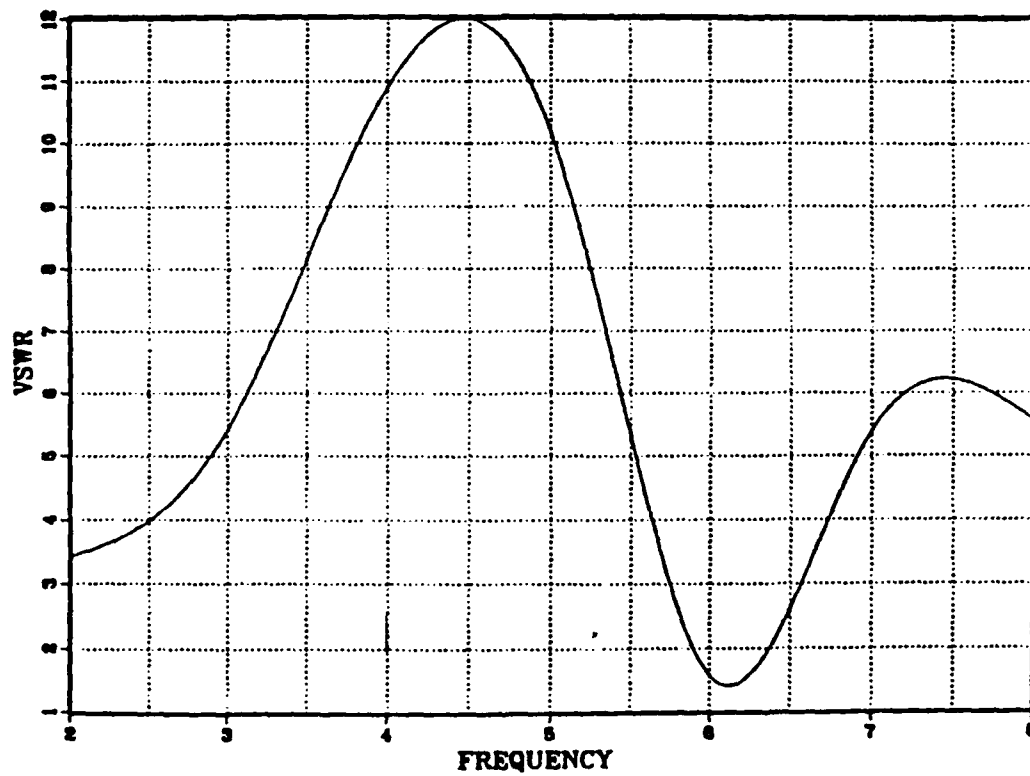


Figure 8. VSWR vs freq. for the Army Lowband DD antenna over perfect ground
(normalized impedance = 600 ohms)

ARMY LO-BAND DD ANTENNA

COMPARISON VSWR VS FREQ/PERF.GND

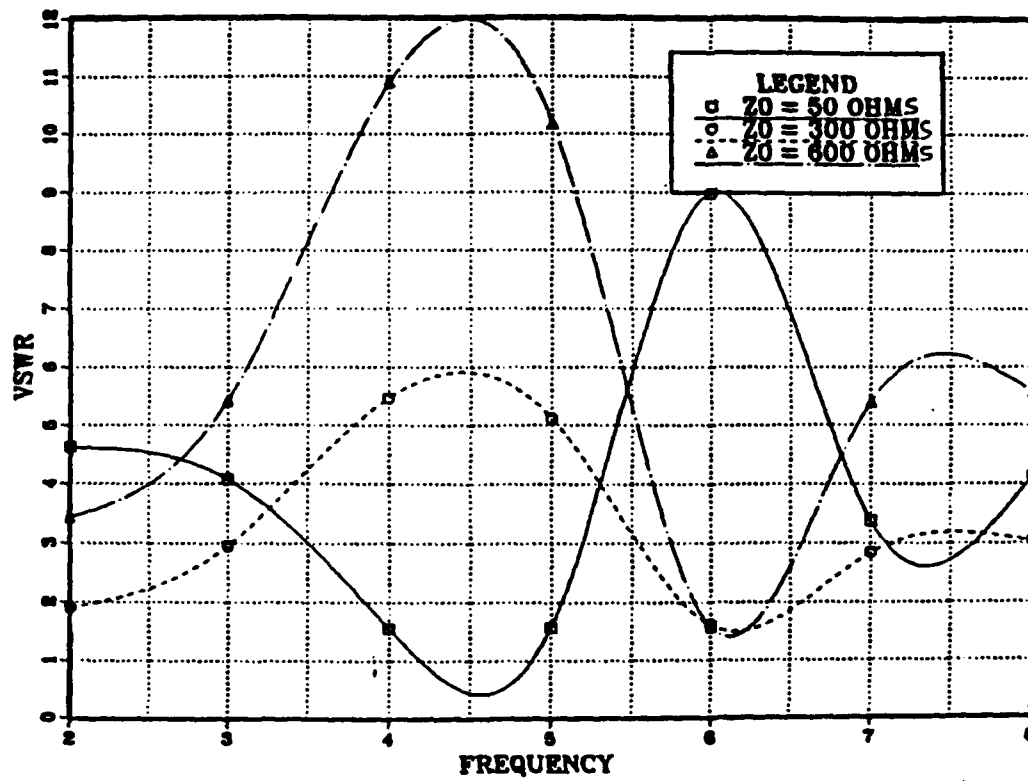


Figure 9. Comparison VSWR vs frequency for the Army Lowband DD antenna over perfect ground

ARMY LO-BAND DD ANTENNA

IMP. VS FREQ/PERF.GND/ $Z_0=50$ OHMS

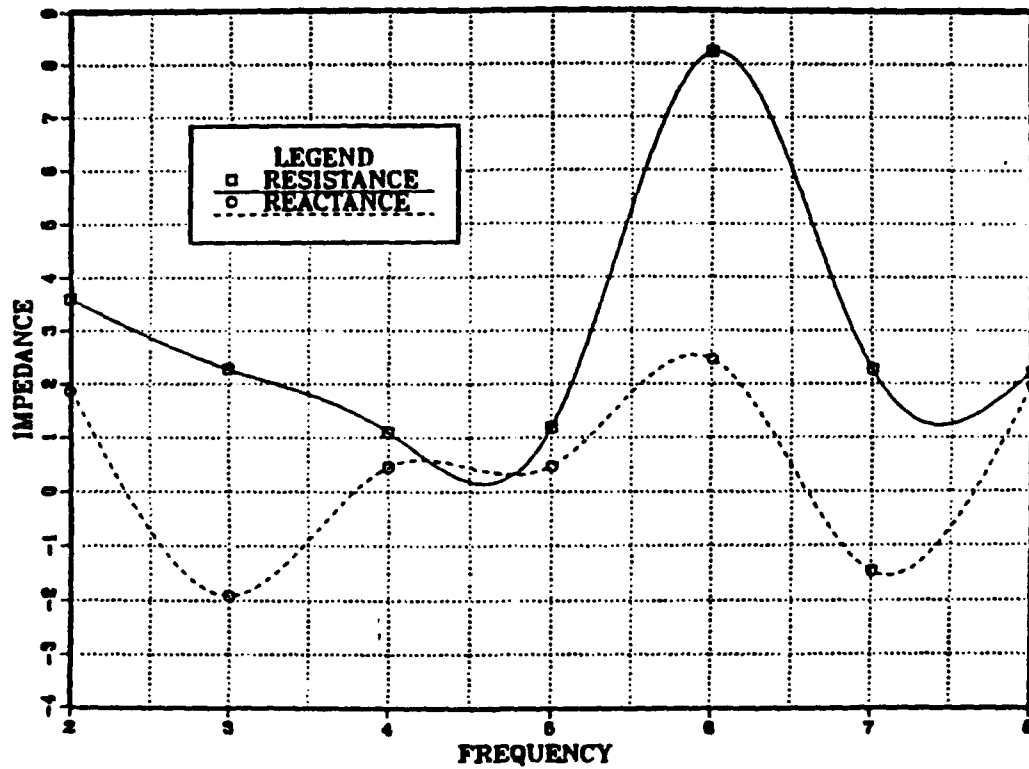


Figure 10. Impedance vs freq. for the Army Lowband DD antenna over perfect ground (normalized impedance = 50 ohms)

ARMY LO-BAND DD ANTENNA

IMP. VS FREQ/PRF.GND/Z0=300 OHMS

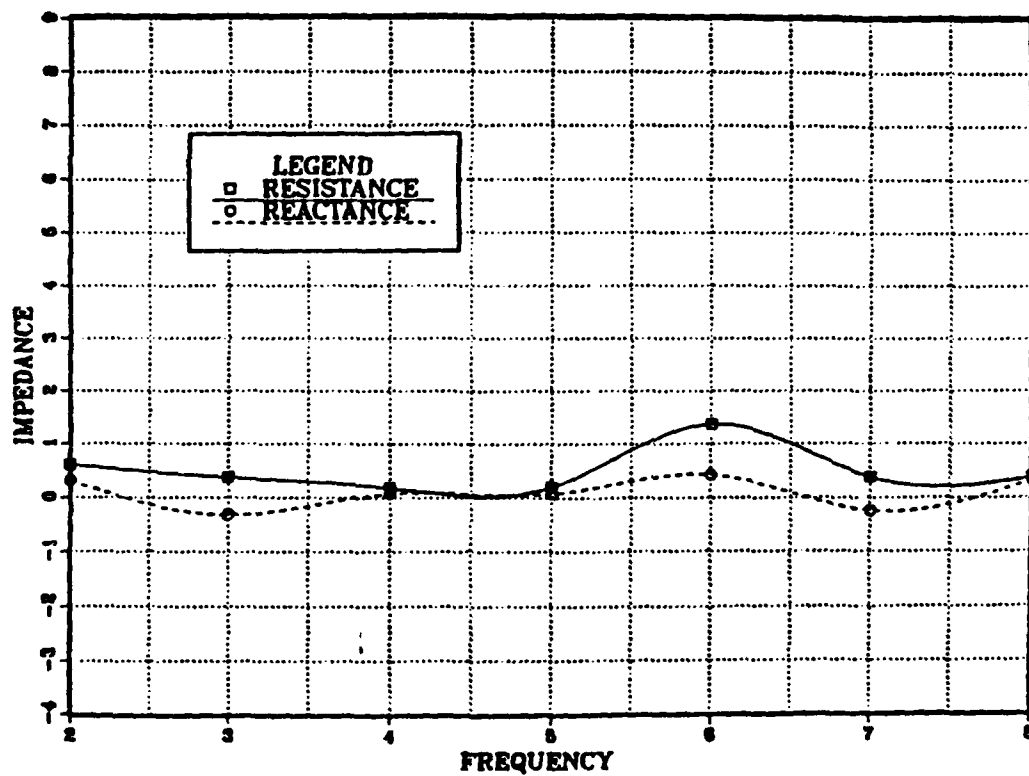


Figure 11. Impedance vs freq. for the Army Lowband DD antenna over perfect ground (normalized impedance = 300 ohms)

ARMY LO-BAND DD ANTENNA

IMP. VS FREQ/PRF.GND/20=600 OHMS

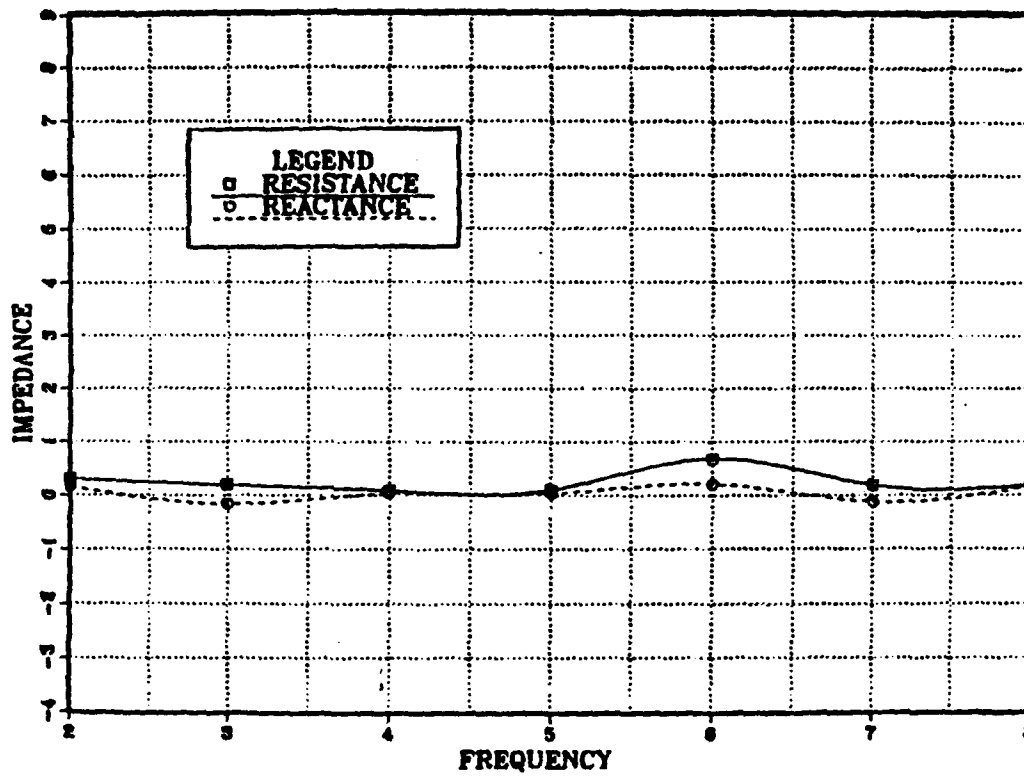


Figure 12. Impedance vs freq. for the Army Lowband DD antenna over perfect ground (normalized impedance = 600 ohms)

ARMY LO-BAND DD ANTENNA

ELEVATION PATTERN (BORESIGHT)

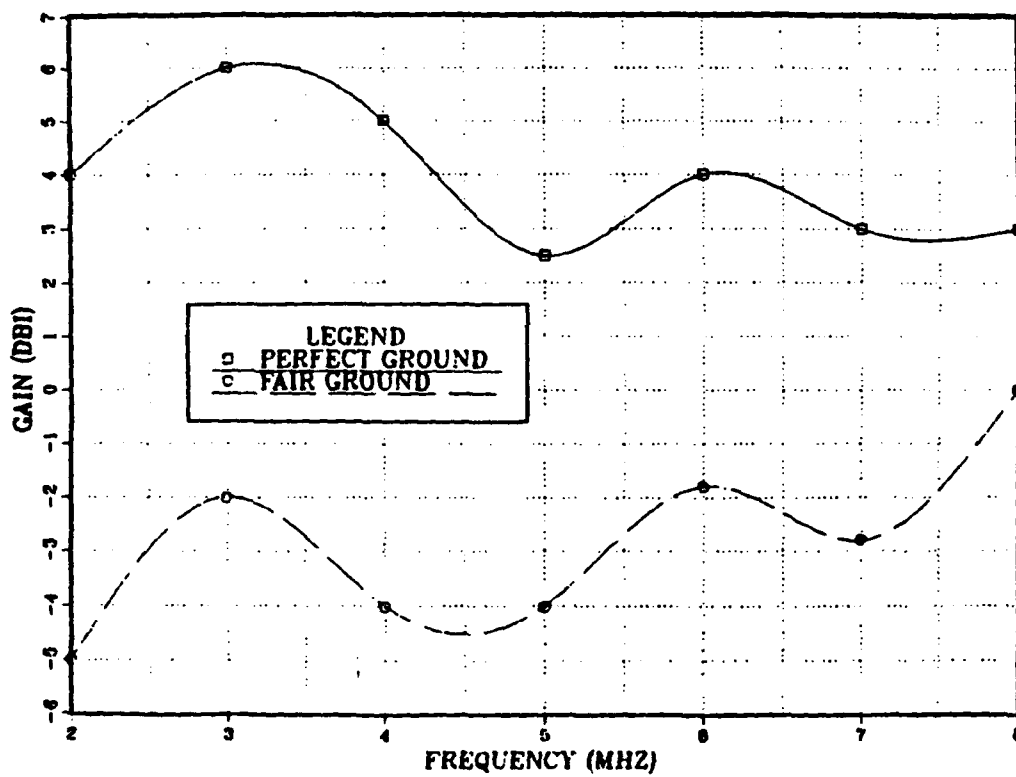


Figure 13. Max. gain vs frequency for the Army Lowband DD antenna over perfect ground and fair ground (boresight)

ARMY LO-BAND DD ANTENNA

ELEVATION PATTERN (BROADSIDE)

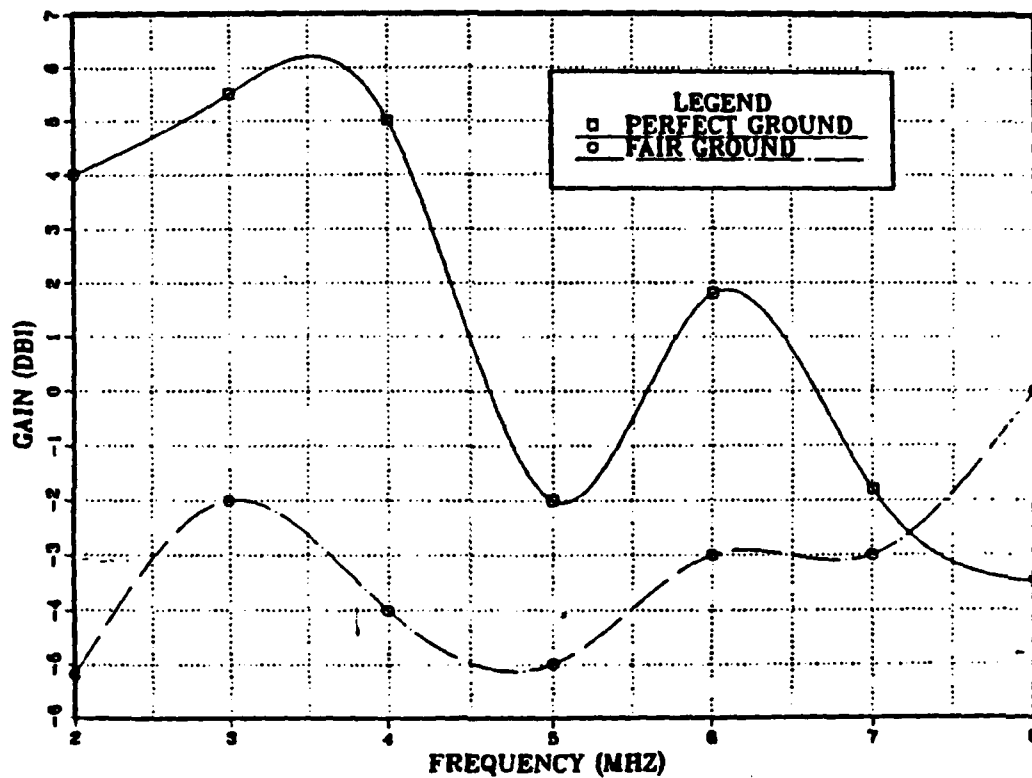


Figure 14. Max. gain vs frequency for the Army Lowband DD antenna over perfect and fair ground (broadside)

ARMY HI-BAND DD ANTENNA

VSWR VS FREQ/PERF.GND/ $Z_0=50$ OHMS

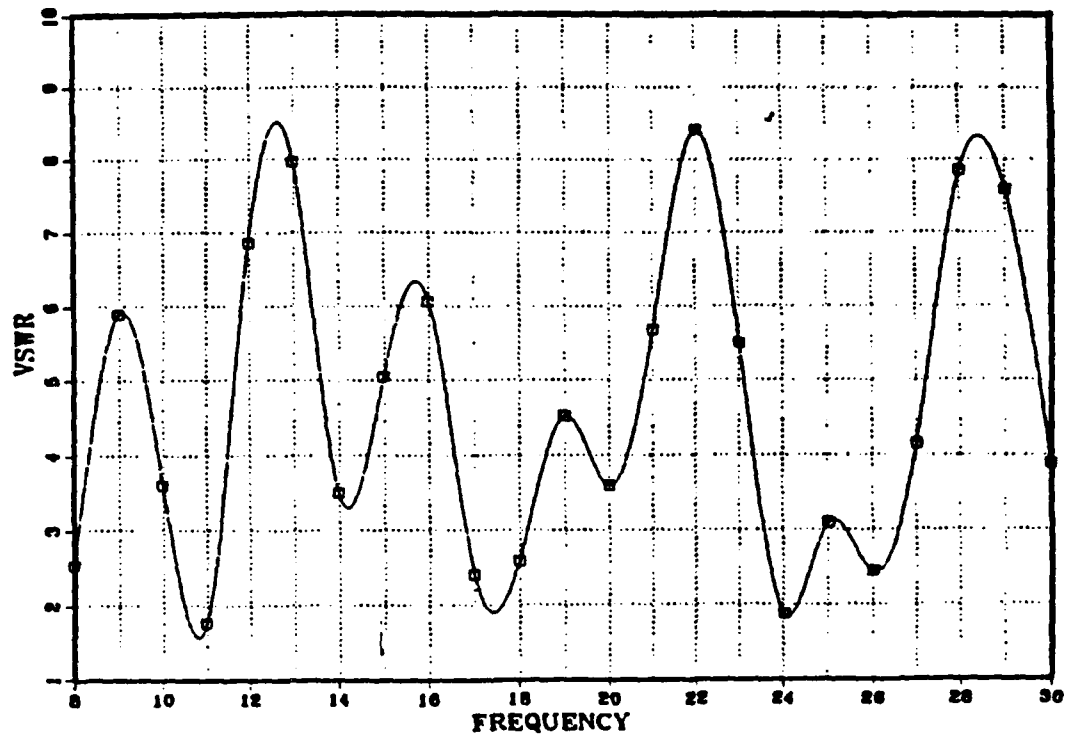


Figure 15. VSWR vs freq. for the Army Highband DD antenna over perfect ground (normalized impedance = 50 ohms)

ARMY HI-BAND DD ANTENNA

VSWR VS FREQ/PRF.GND/ $Z_0=300$ OHMS

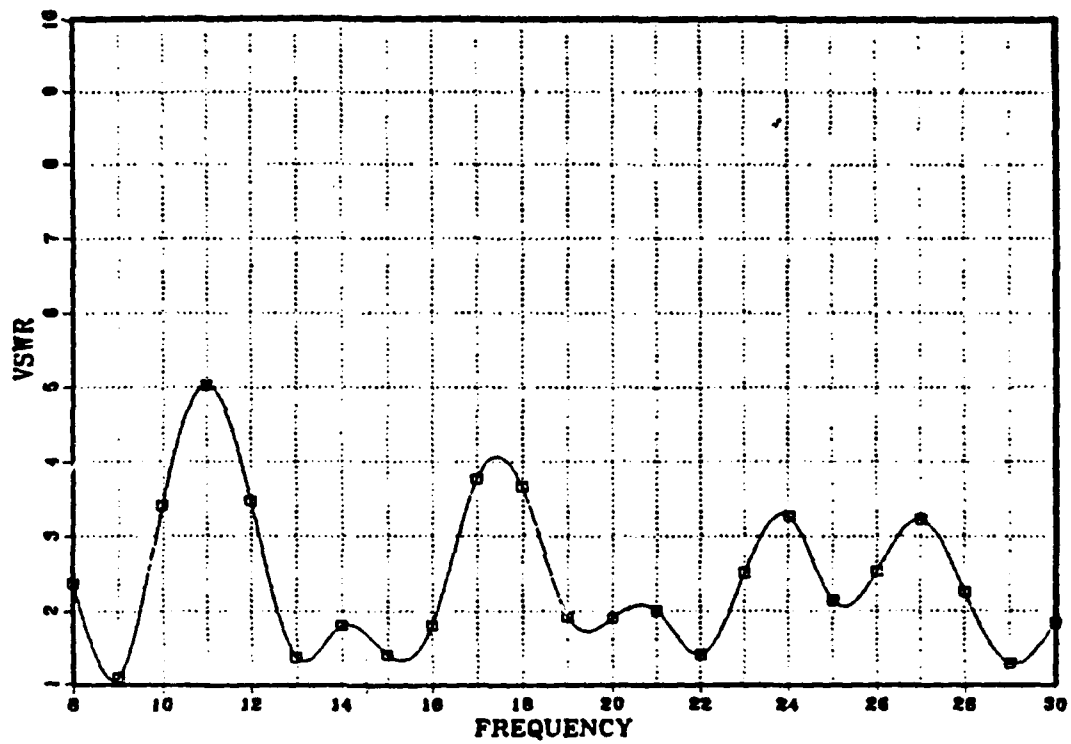


Figure 16. VSWR vs freq. for the Army Highband DD antenna over perfect ground
(normalized impedance = 300 ohms)

ARMY HI-BAND DD ANTENNA

VSWR VS FREQ/PRF.GND/ $Z_0=600$ OHMS

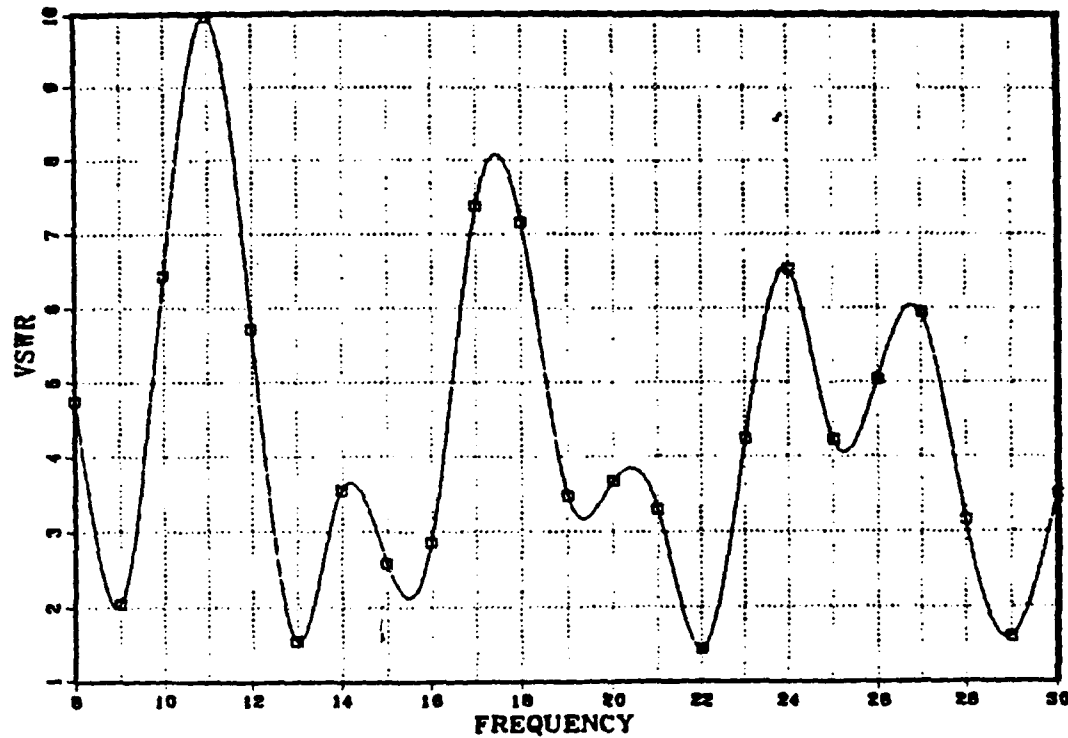


Figure 17. VSWR vs freq. for the Army Highband DD antenna over perfect ground
(normalized impedance = 600 ohms)

ARMY HI-BAND DD ANTENNA

COMPARISON VSWR VS FREQ/PERF.GND

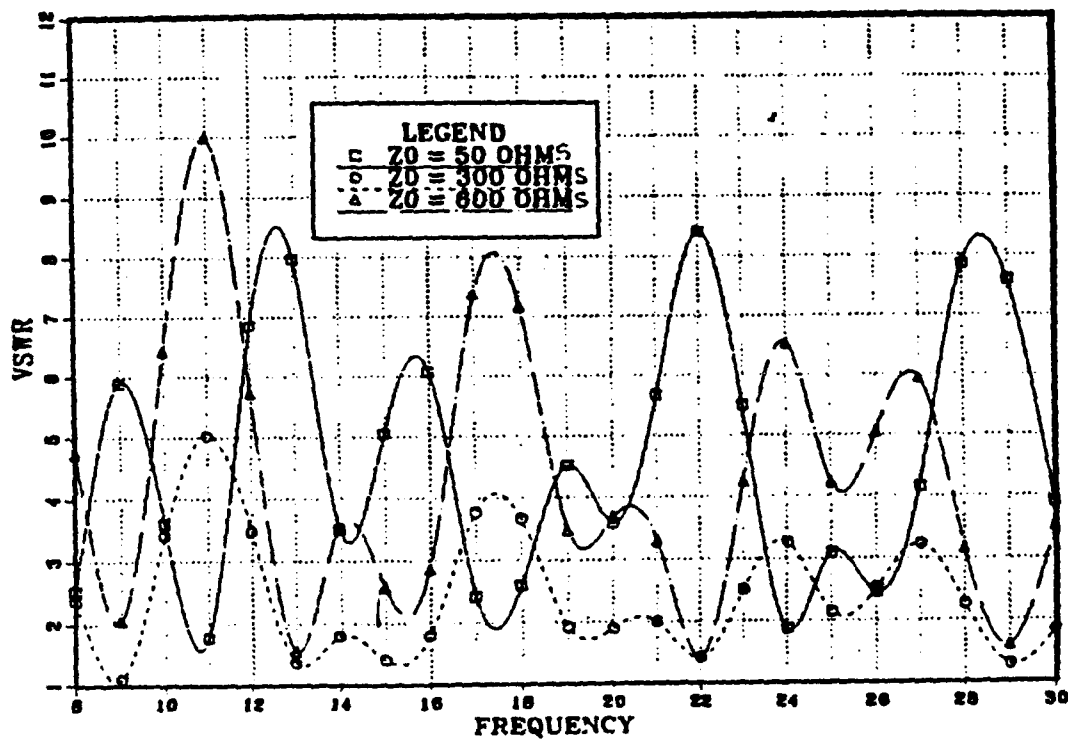


Figure 18. Comparison VSWR vs frequency for the Army Highband DD antenna over perfect ground

ARMY HI-BAND DD ANTENNA

IMP. VS FREQ./PERF.GND/ $Z_0=50$ OHMS

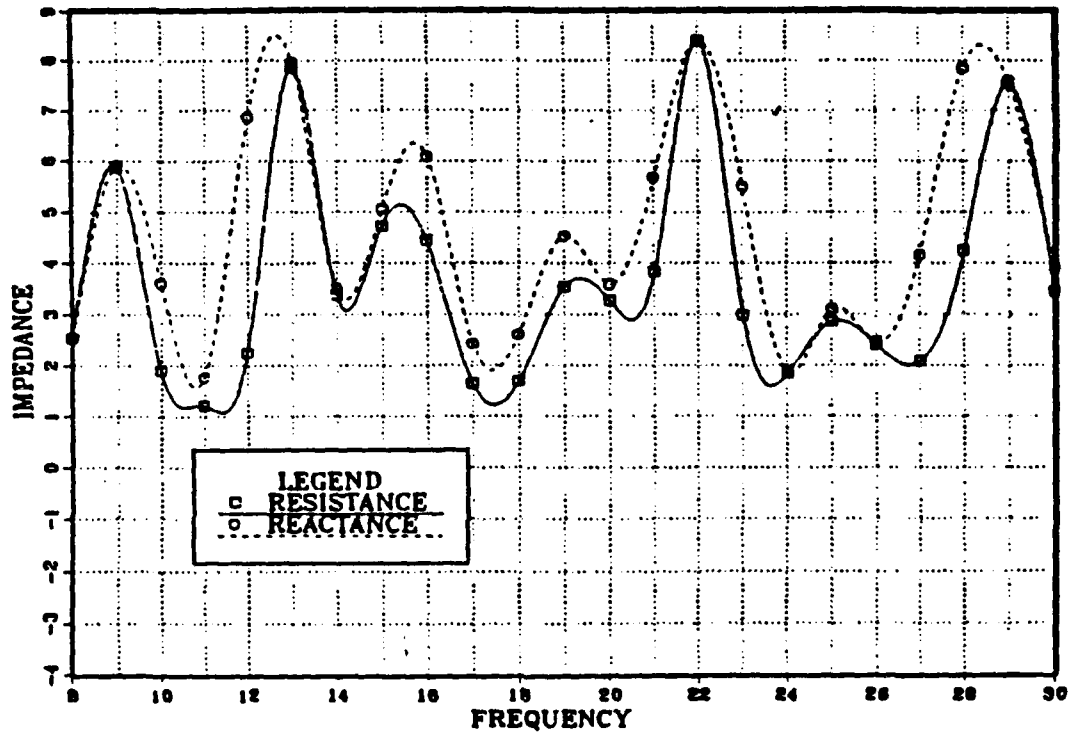


Figure 19. Impedance vs freq. for the Army Highband DD antenna over perfect ground (normalized impedance = 50 ohms)

ARMY HI-BAND DD ANTENNA

IMP. VS FREQ/PRF.GND/ $Z_0=300$ OHMS

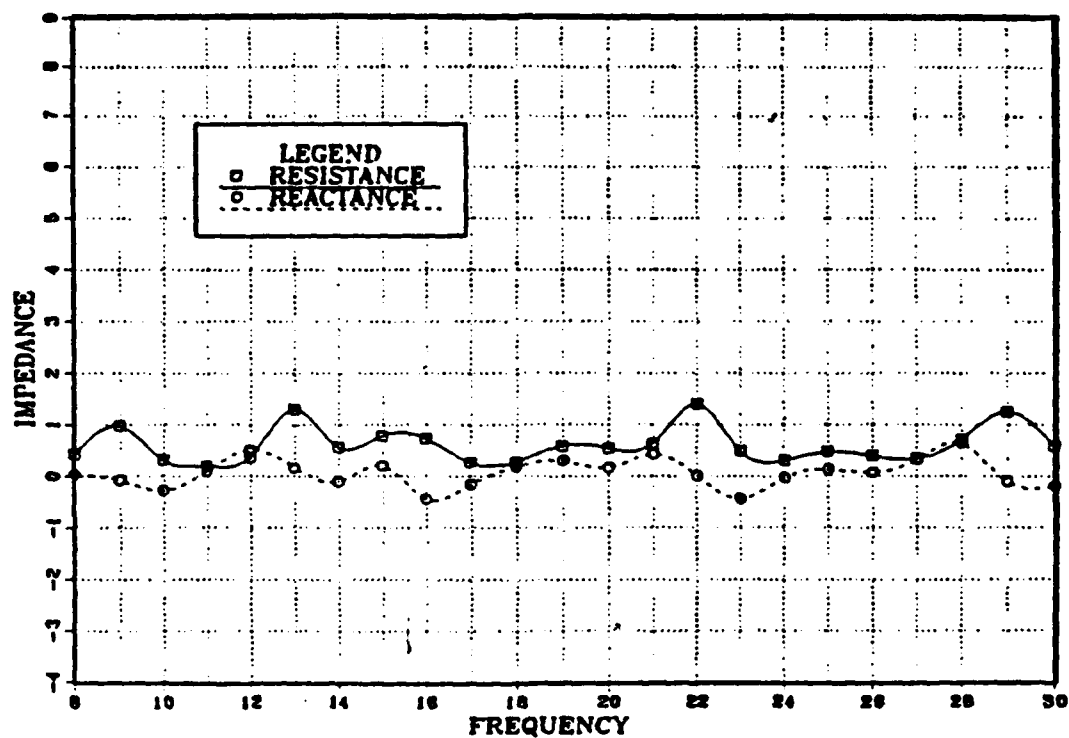


Figure 20. Impedance vs freq. for the Army Highband DD antenna over perfect ground (normalized impedance = 300 ohms)

ARMY HI-BAND DD ANTENNA

IMP. VS FREQ/PRF.GND/ $Z_0=600$ OHMS

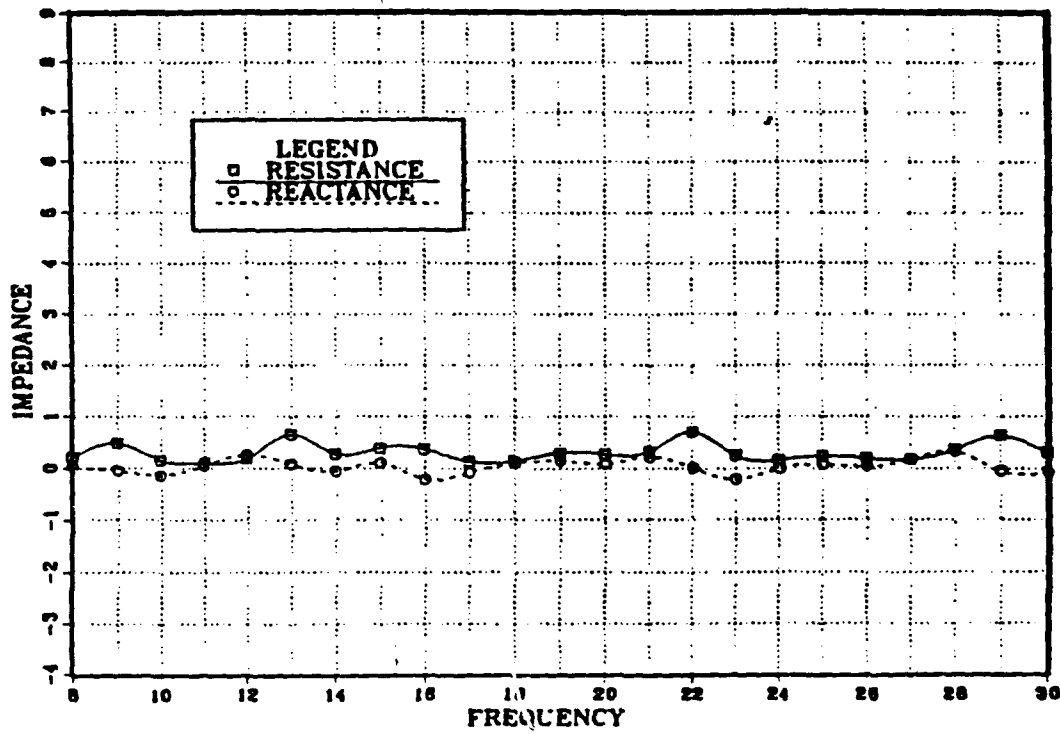


Figure 21. Impedance vs freq. for the Army Highband DD antenna over perfect ground (normalized impedance = 600 ohms)

ARMY HI-BAND DD ANTENNA

ELEVATION PATTERN (BORESIGHT)

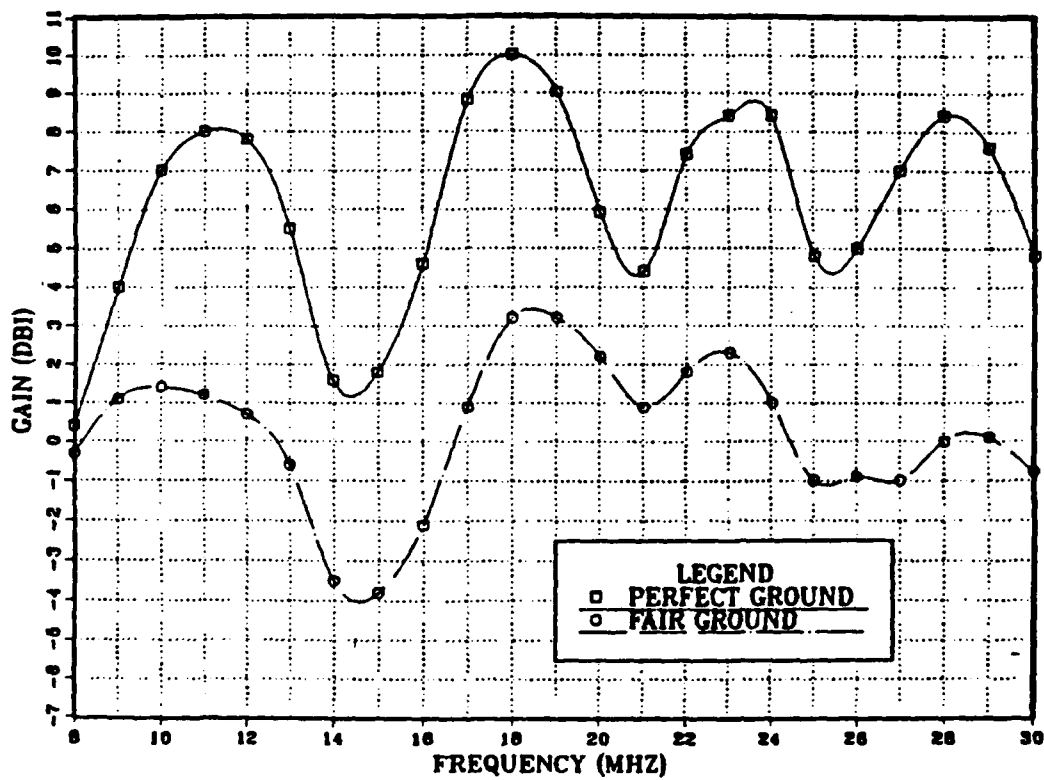


Figure 22. Max. gain vs. freq. for the Army Highband DD antenna over perfect ground and fair ground (boresight)

ARMY HI-BAND DD ANTENNA

ELEVATION PATTERN (BROADSIDE)

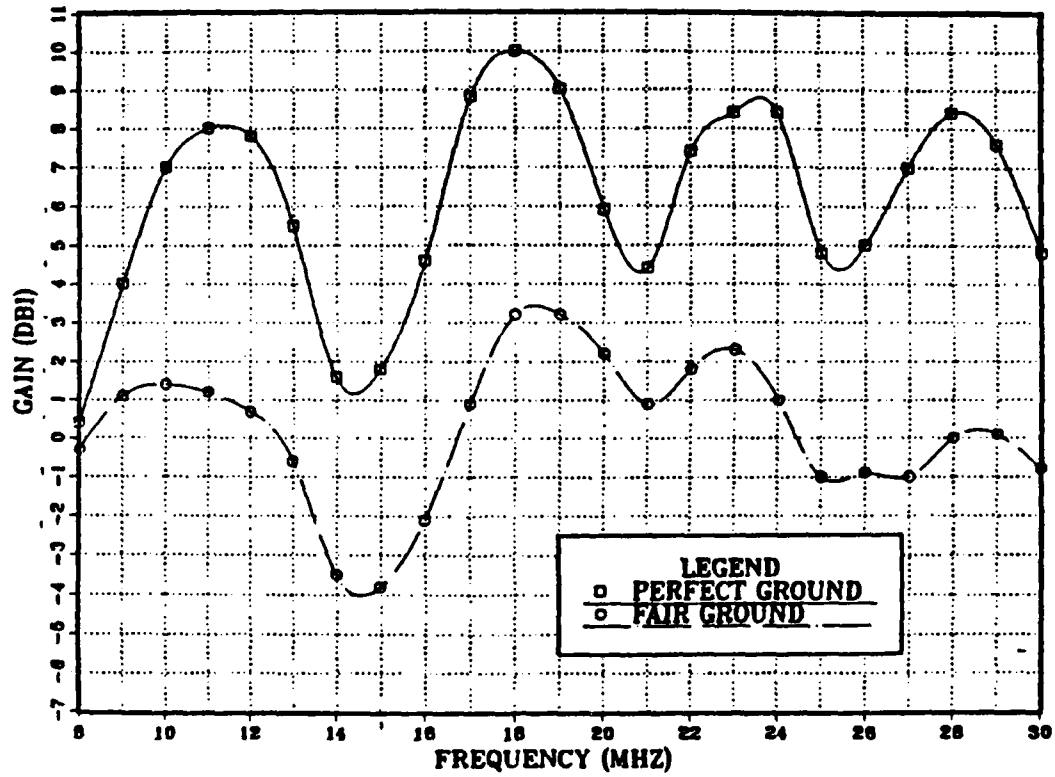


Figure 23. Max. gain vs frequency for the Army Highband DD antenna over perfect ground and fair ground (broadside)

AIR FORCE LO-BAND DD ANTENNA

VSWR VS FREQ/PERF.GND/ $Z_0=50$ OHMS

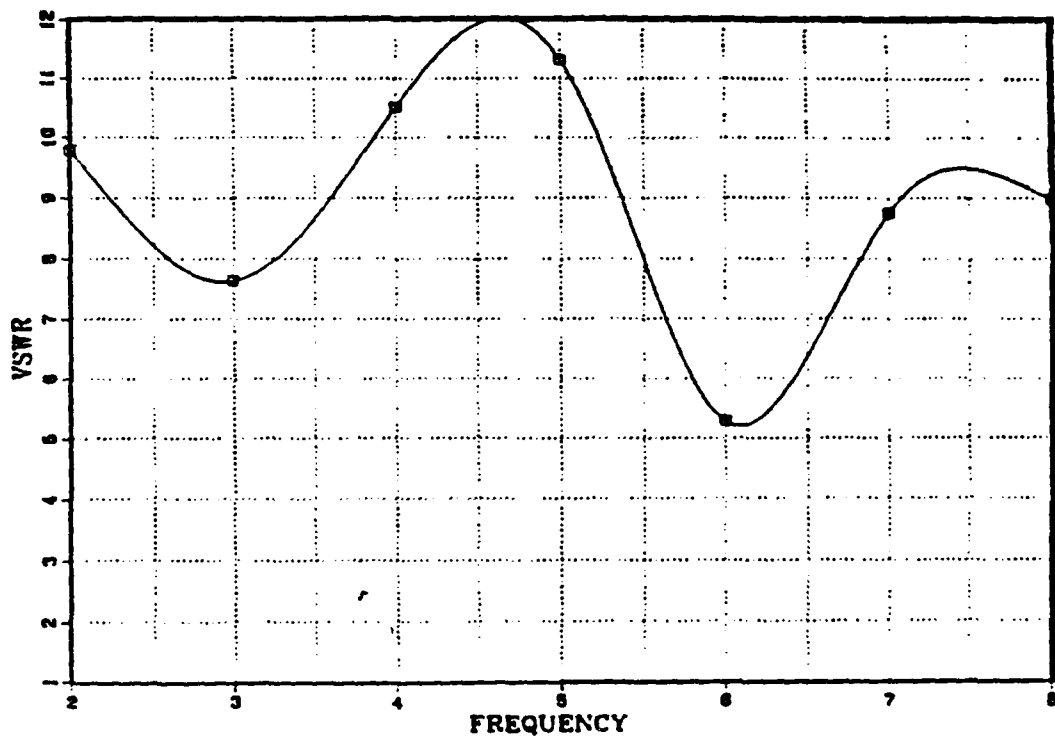


Figure 24. VSWR vs freq. for the Air Force Lowband DD antenna over perfect ground (normalized impedance = 50 ohms)

AIR FORCE LO-BAND DD ANTENNA

VSWR VS FREQ/PRF.GND/ $Z_0=300$ OHMS

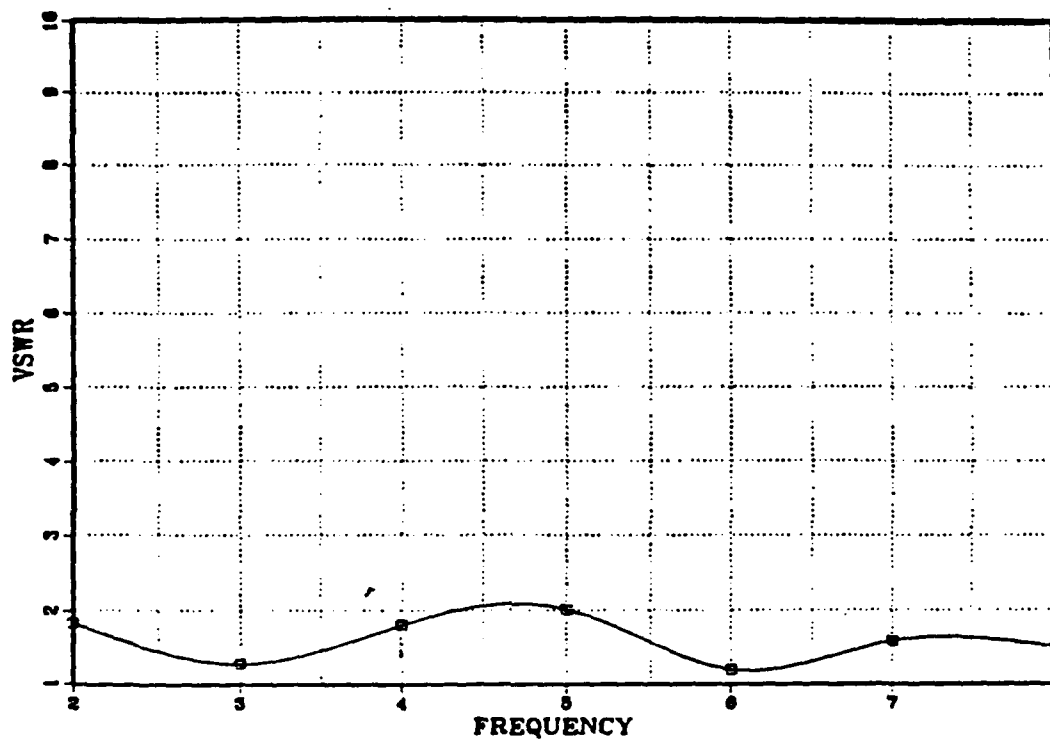


Figure 25. VSWR vs freq. for the Air Force Lowband DD antenna over perfect ground (normalized impedance = 300 ohms)

AIR FORCE LO-BAND DD ANTENNA

VSWR VS FREQ/PRF.GND/ $Z_0=600$ OHMS

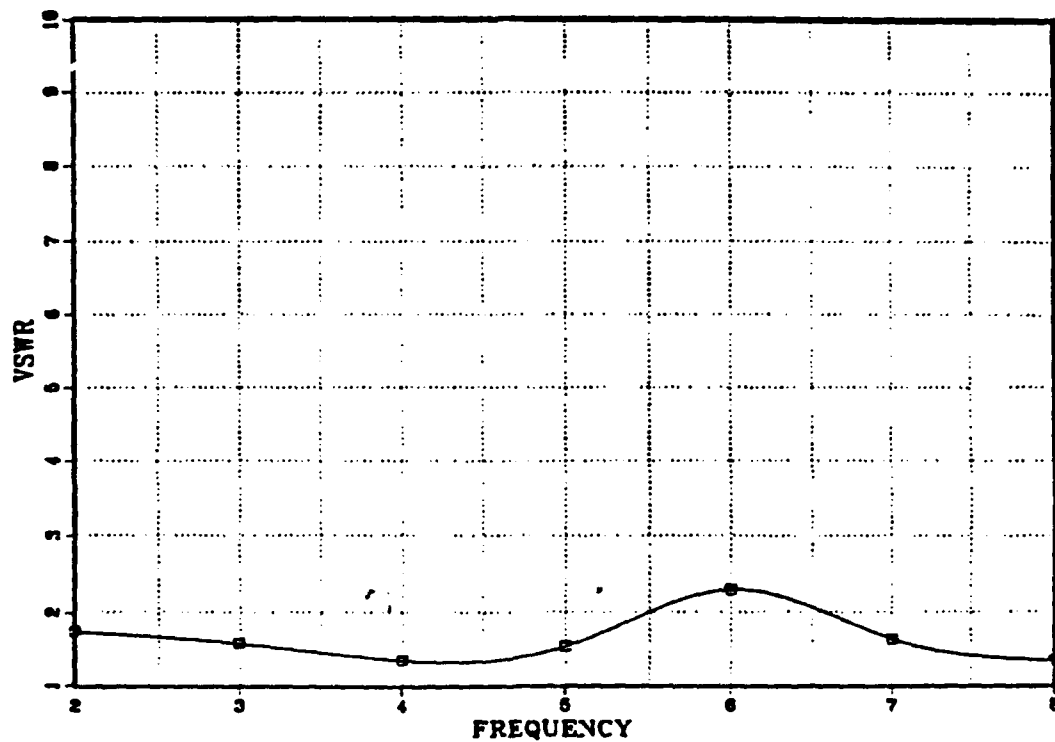


Figure 26. VSWR vs freq. for the Air Force Lowband DD antenna over perfect ground (normalized impedance = 600 ohms)

AIR FORCE LO-BAND DD ANTENNA

COMPARISON VSWR VS FREQ/PERF.GND

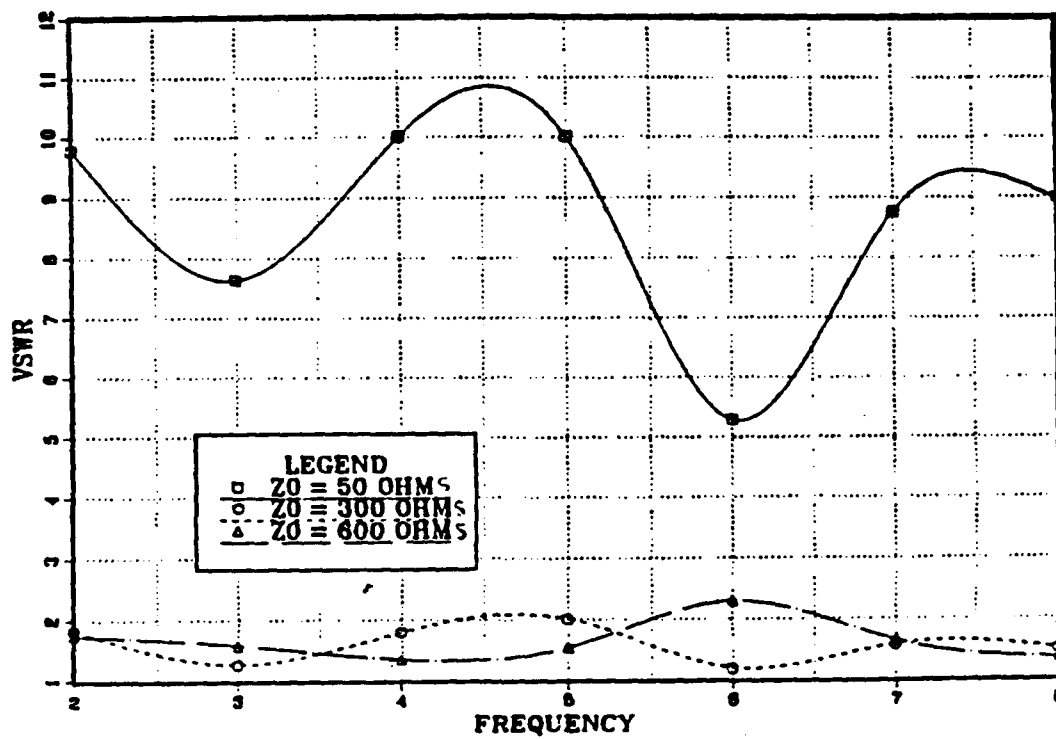


Figure 27. Comparison VSWR vs freq. for the Air Force Lowband DD antenna over perfect ground

AIR FORCE LO-BAND DD ANTENNA

IMP. VS FREQ/PERF.GND/ $Z_0=50$ OHMS

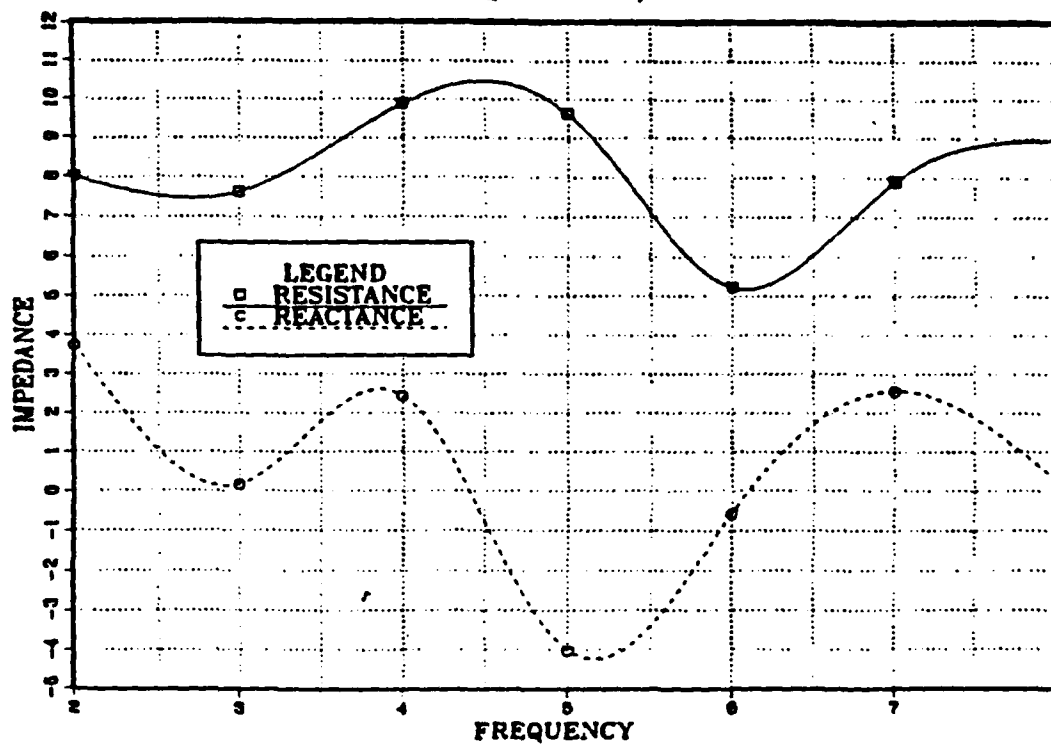


Figure 28. Impedance vs frequency for the Air Force Lowband DD antenna over perfect ground (normalized impedance = 50 ohms)

AIR FORCE LO-BAND DD ANTENNA

IMP. VS FREQ/PRF.GND/Z0=300 OHMS

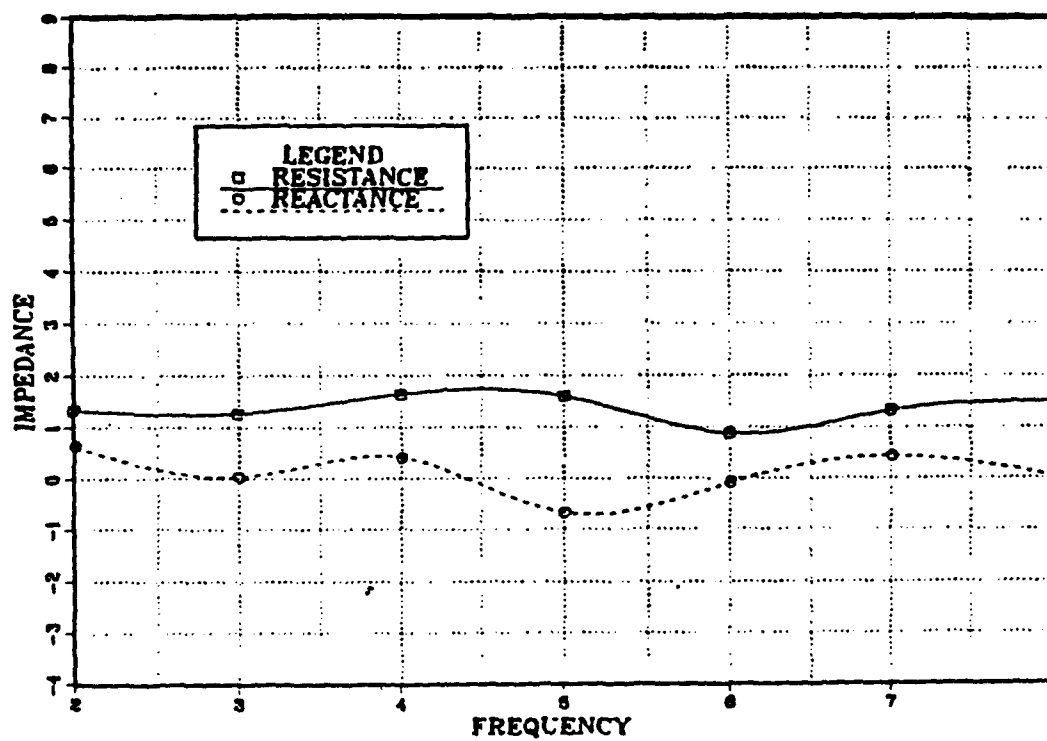


Figure 29. Impedance vs frequency for the Air Force Lowband DD antenna over perfect ground (normalized impedance = 300 ohms)

AIR FORCE LO-BAND DD ANTENNA

IMP. VS FREQ/PRF.GND/ $Z_0=600$ OHMS

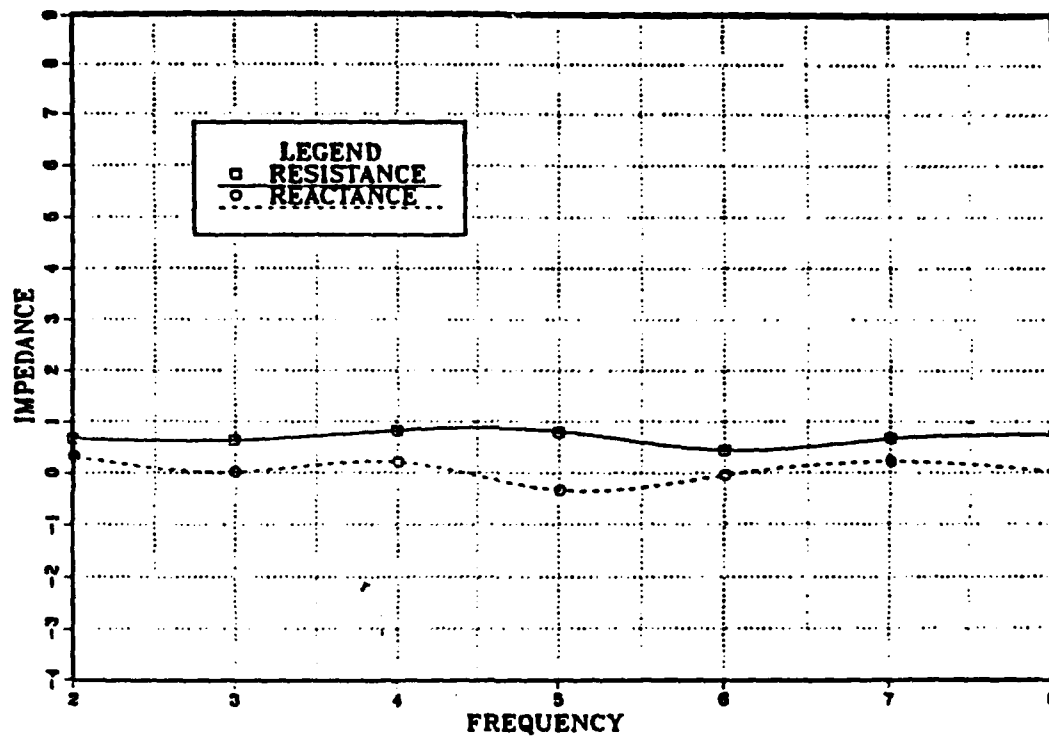


Figure 30. Impedance vs frequency for the Air Force Lowband DD antenna over perfect ground (normalized impedance = 600 ohms)

AIR FORCE LO-BAND DD ANTENNA

ELEVATION PATTERN (BORESIGHT)

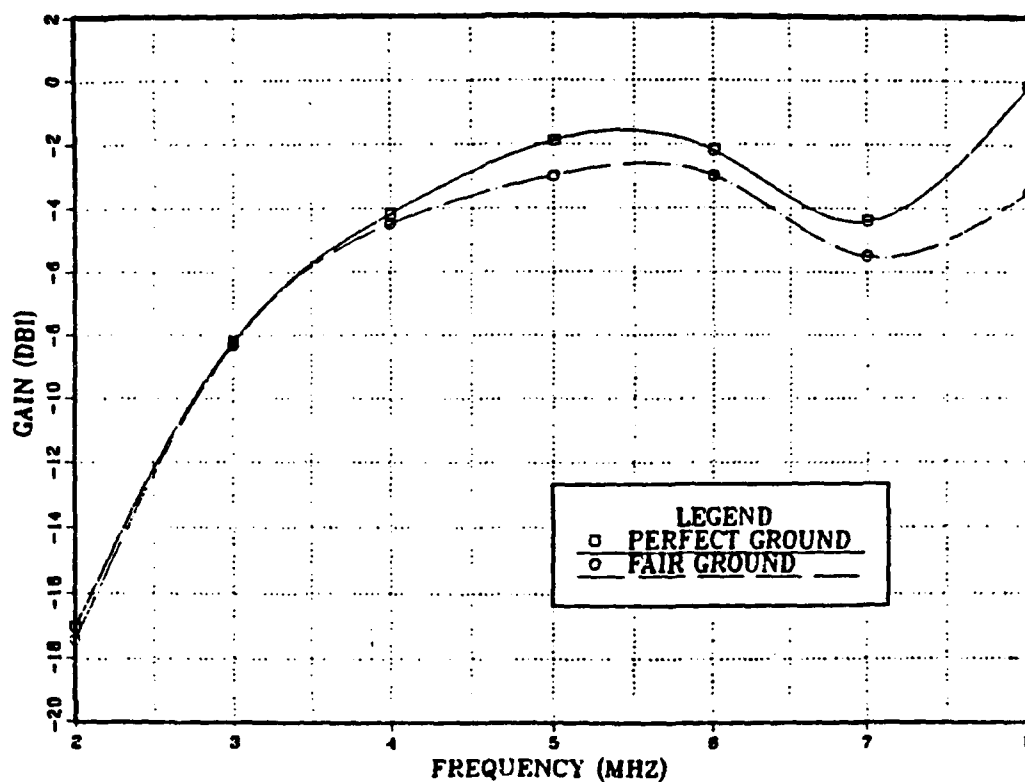


Figure 31. Max. gain vs freq. for the Air Force Lowband DD antenna over perfect ground and fair ground (boresight)

AIR FORCE LO-BAND DD ANTENNA

ELEVATION PATTERN (BROADSIDE)

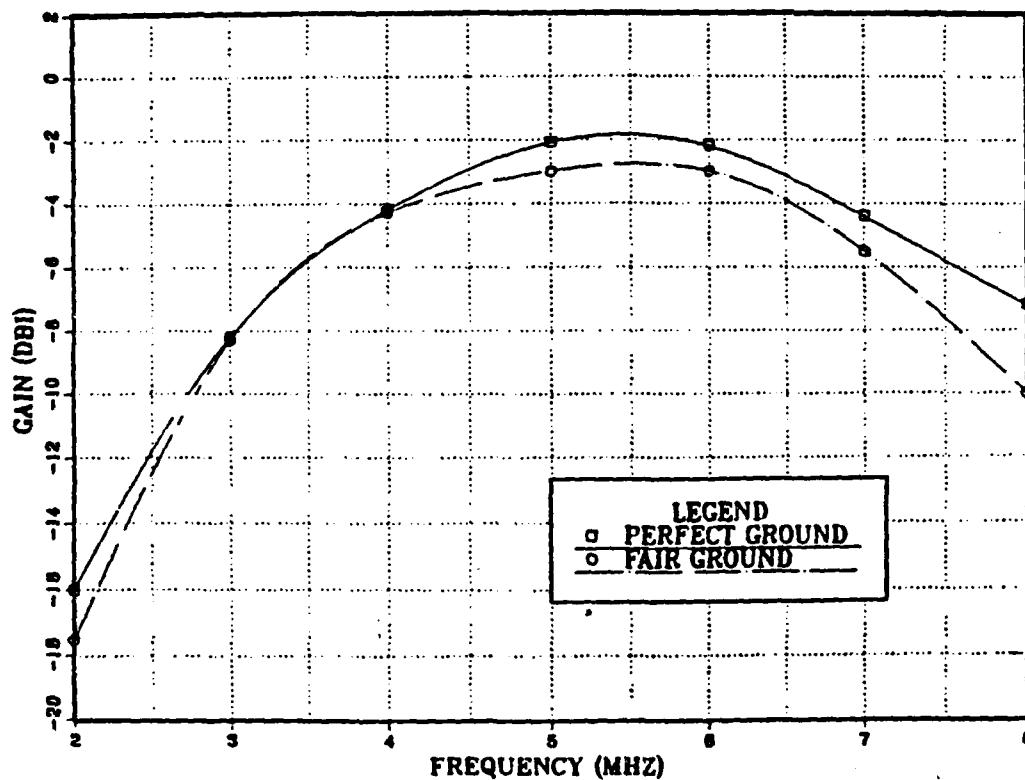


Figure 32. Max. gain vs frequency for the Air Force Lowband DD antenna over perfect ground and fair ground (broadside)

AIR FORCE HI-BAND DD ANTENNA

VSWR VS FREQ/PERF.GND/20-50 OHMS

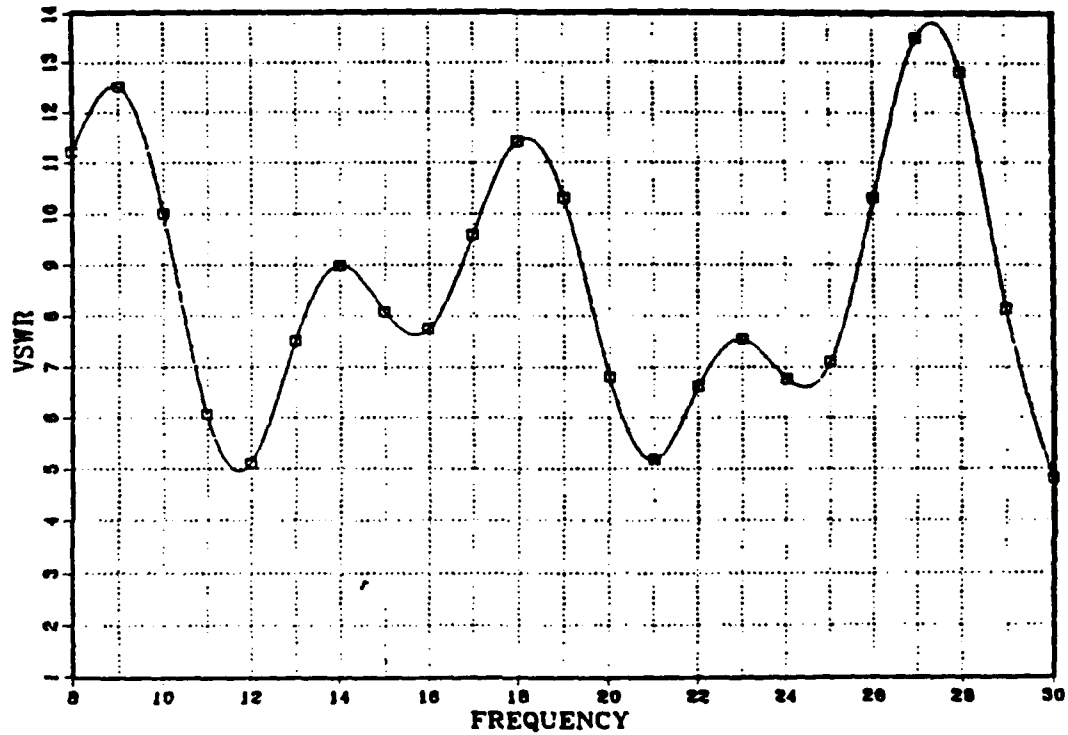


Figure 33. VSWR vs freq. for the Air Force Highband DD antenna over perfect ground (normalized impedance = 50 ohms)

AIR FORCE HI-BAND DD ANTENNA

VSWR VS FREQ/PRF.GND/ $Z_0=300$ OHMS

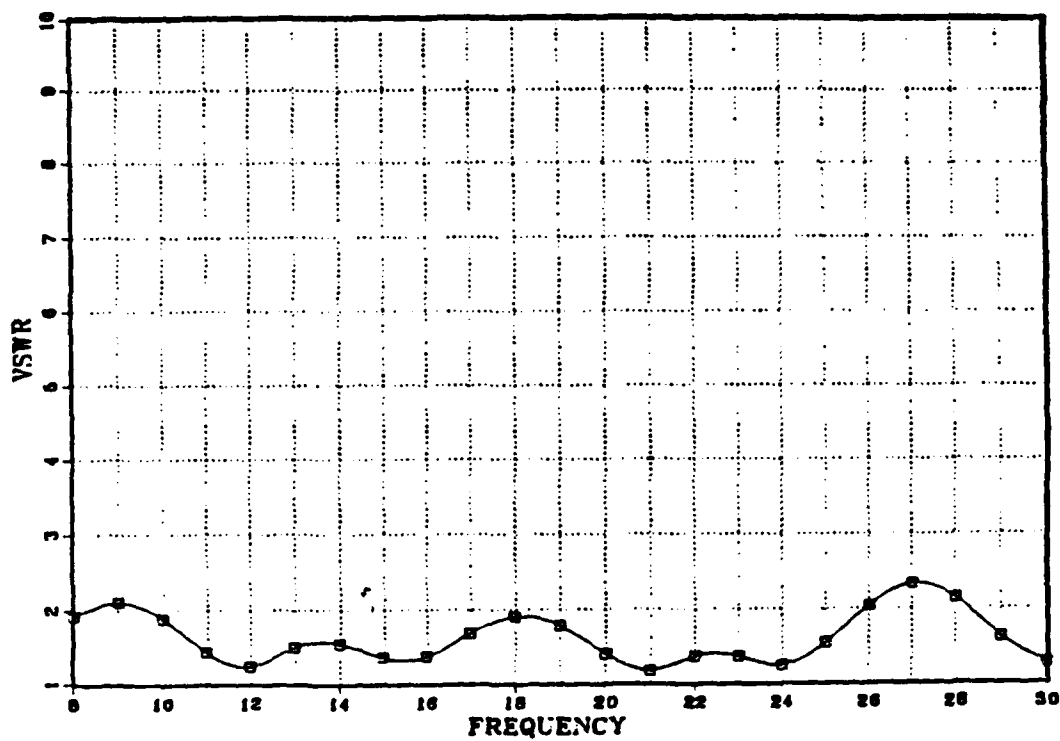


Figure 34. VSWR vs freq. for the Air Force Highband DD antenna over perfect ground (normalized impedance = 300 ohms)

AIR FORCE HI-BAND DD ANTENNA

VSWR VS FREQ/PRF.GND/Z0=600 OHMS

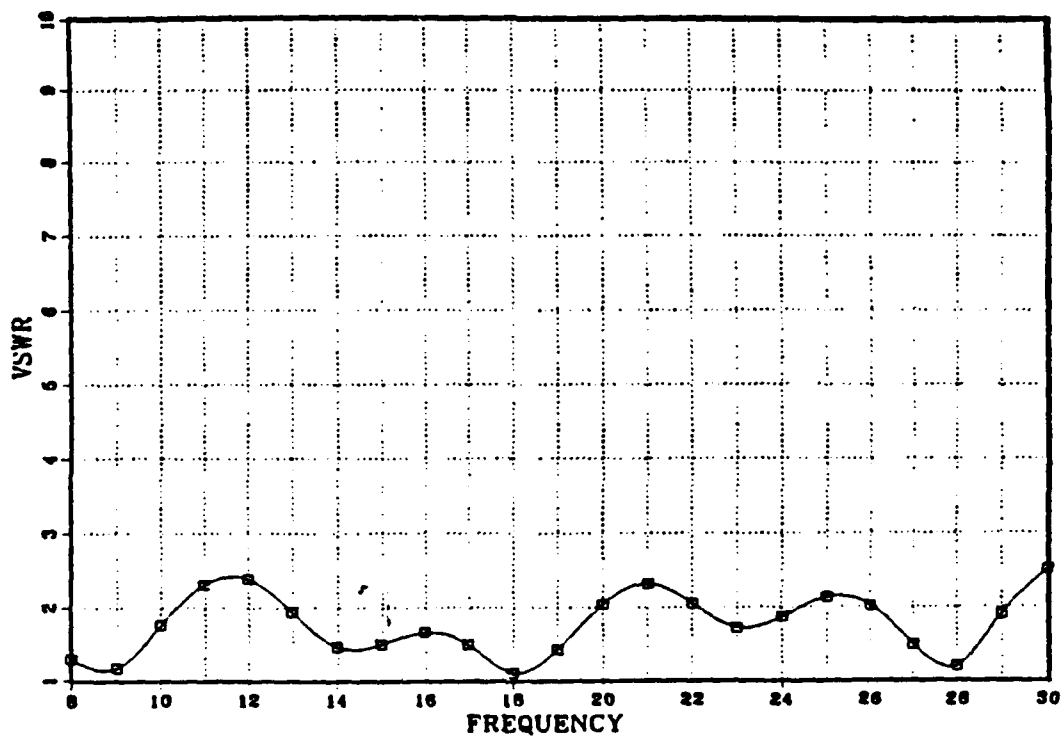


Figure 35. VSWR vs freq. for the Air Force Highband DD antenna over perfect ground (normalized impedance = 600 ohms).

AIR FORCE HI-BAND DD ANTENNA

COMPARISON VSWR VS FREQ/PERF.GND

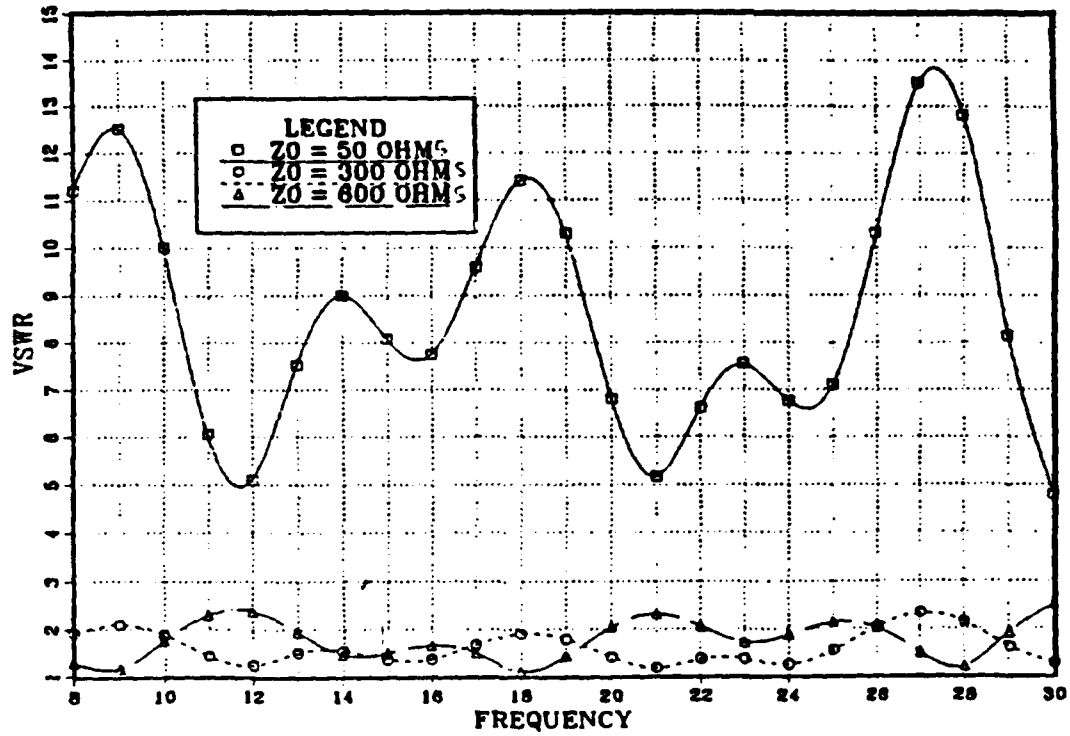


Figure 36. Comparison VSWR vs frequency for the Air Force Highband DD antenna over perfect ground

AIR FORCE HI-BAND DD ANTENNA

IMP. VS FREQ/PERF.GND/ $Z_0=50$ OHMS

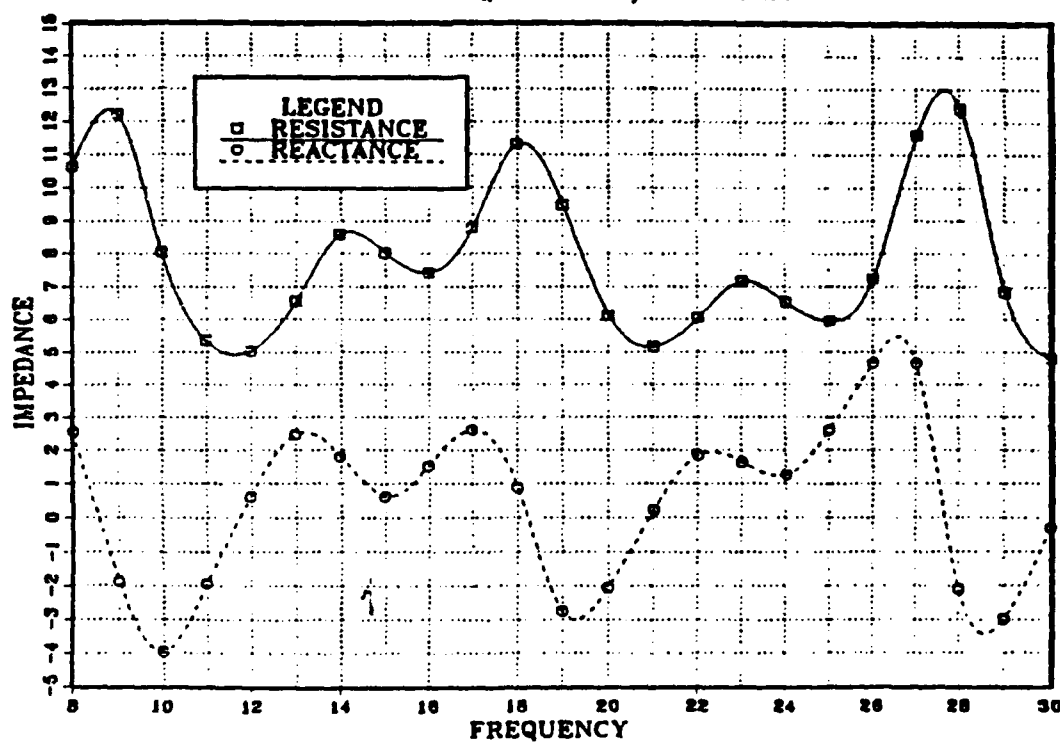


Figure 37. Impedance vs frequency for the Air Force Highband DD antenna over perfect ground (normalized impedance = 50 ohms)

AIR FORCE HI-BAND DD ANTENNA

IMP. VS FREQ/PRF.GND/ $Z_0=300$ OHMS

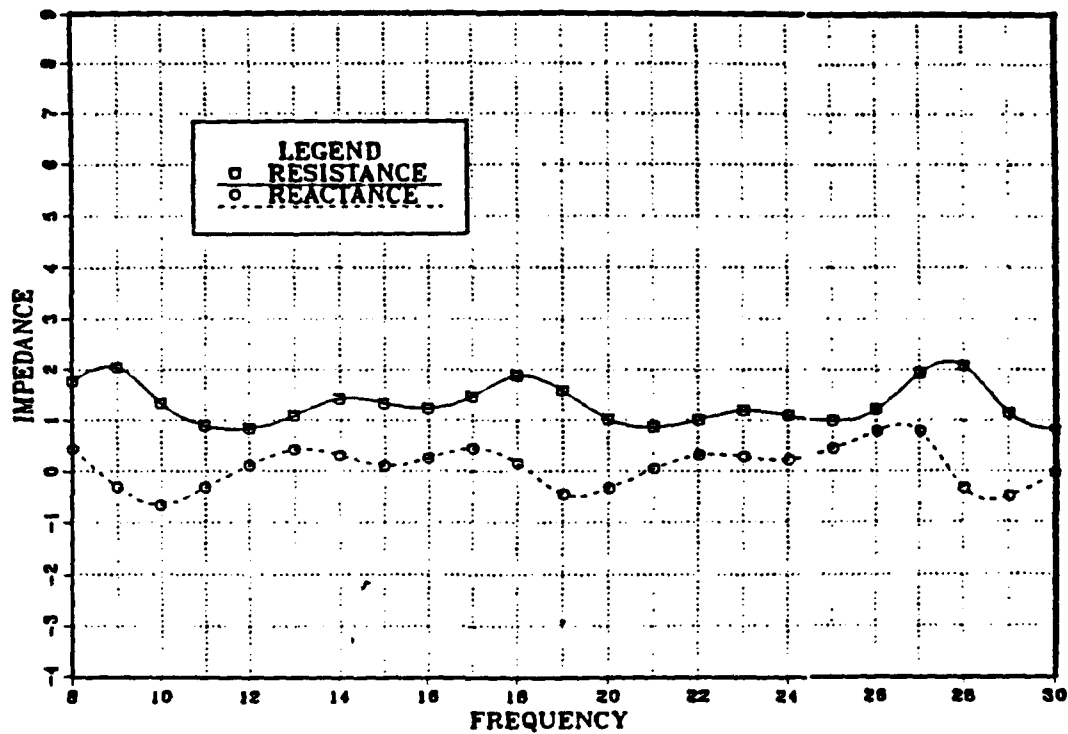


Figure 38. Impedance vs frequency for the Air Force Highband DD antenna over perfect ground (normalized impedance = 300 ohms)

AIR FORCE HI-BAND DD ANTENNA

IMP. VS FREQ/PRF.GND/ $Z_0=600$ OHMS

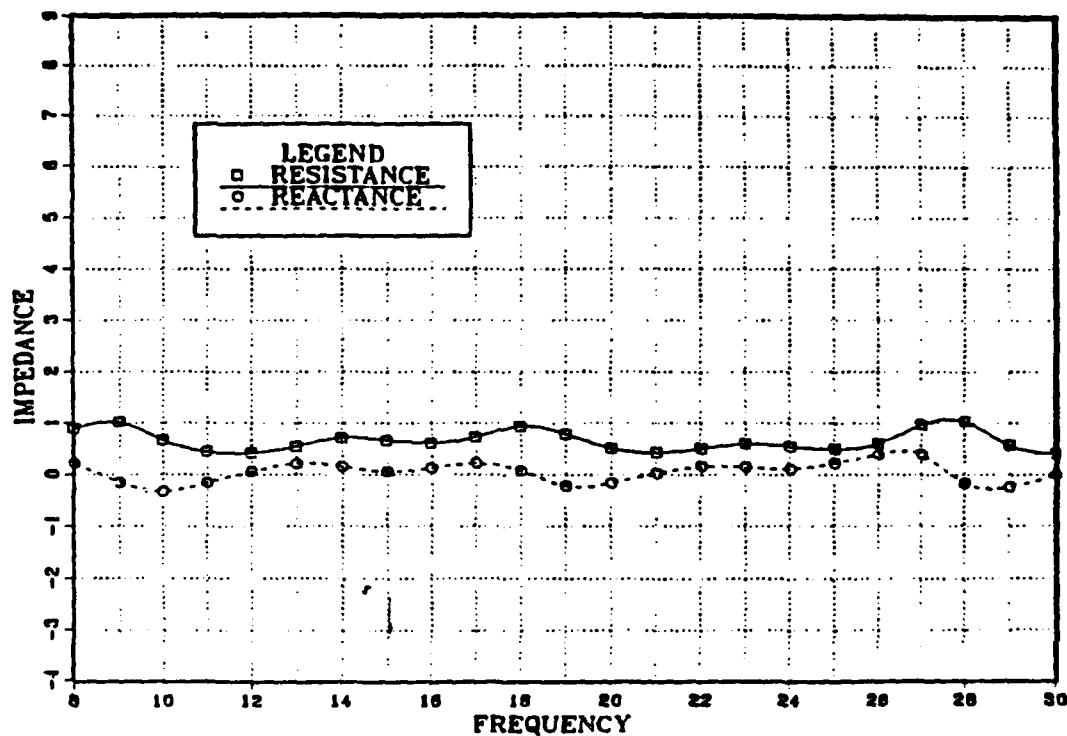


Figure 39. Impedance vs frequency for the Air Force Highband DD antenna over perfect ground (normalized impedance = 600 ohms)

AIR FORCE HI-BAND DD ANTENNA

ELEVATION PATTERN (BORESIGHT)

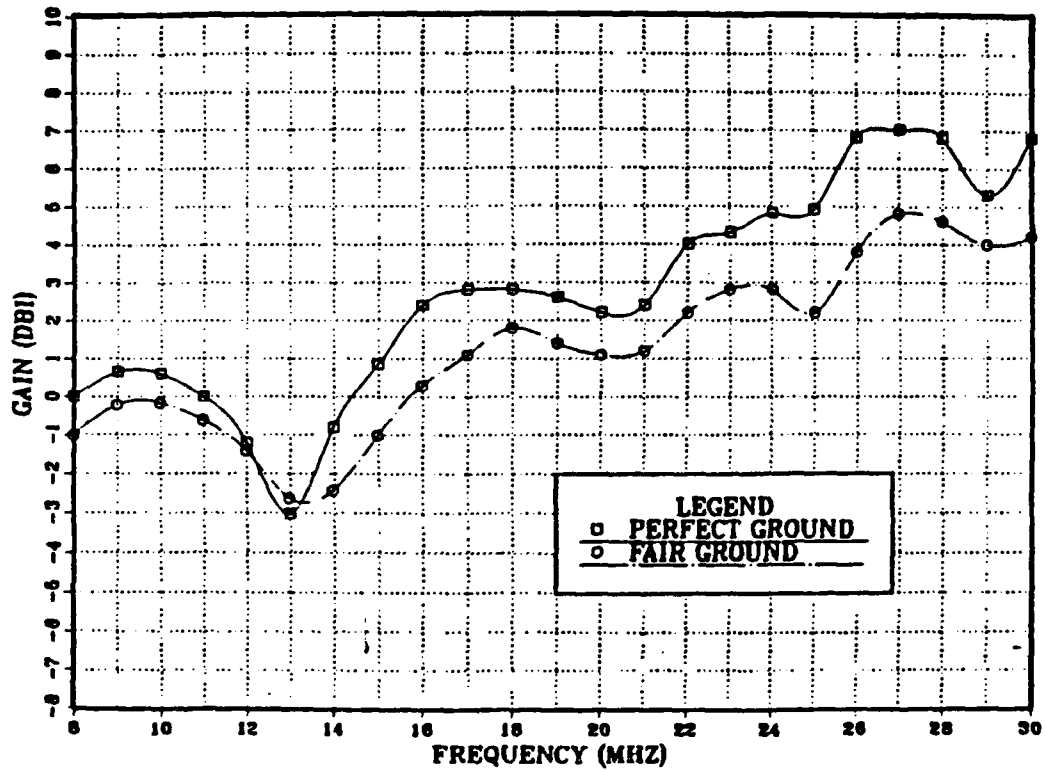


Figure 40. Max. gain vs freq. for the Air Force Highband DD antenna over perfect ground and fair ground (boresight)

AIR FORCE HI-BAND DD ANTENNA

ELEVATION PATTERN (BROADSIDE)

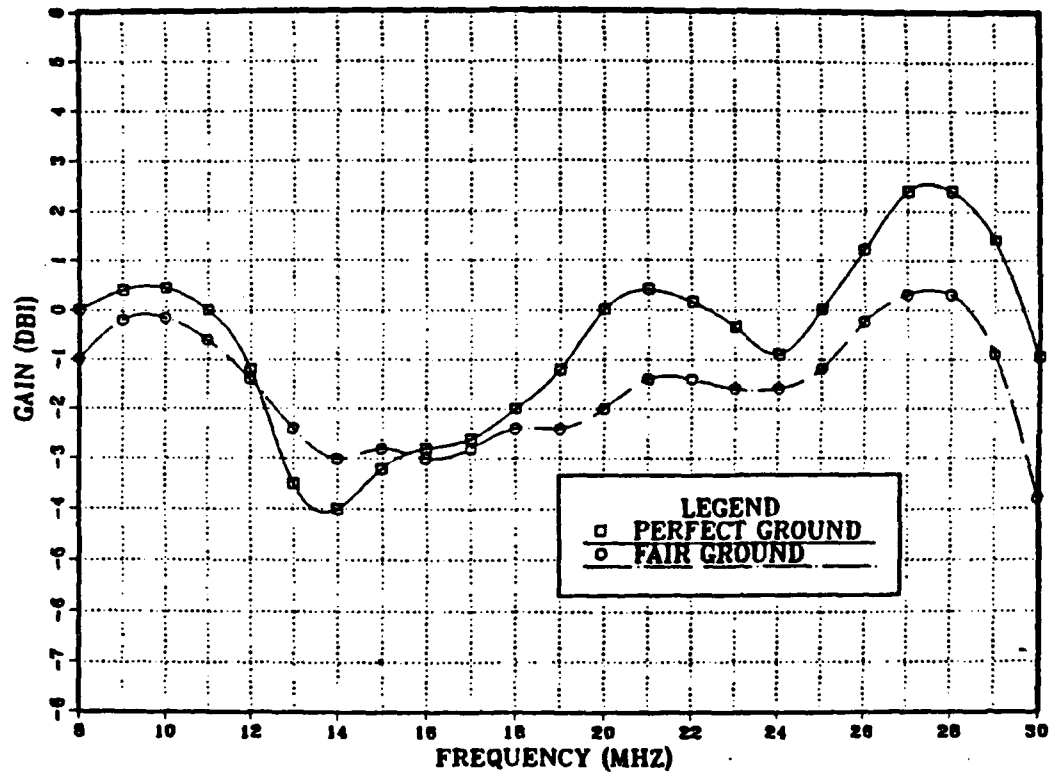


Figure 41. Max. gain vs frequency for the Air Force Highband DD antenna over perfect ground and fair ground (broadside)

ESI 32A2A BROADBAND DD ANTENNA

VSWR VS FREQ/PERF.GND/ $Z_0=50\text{ OHMS}$

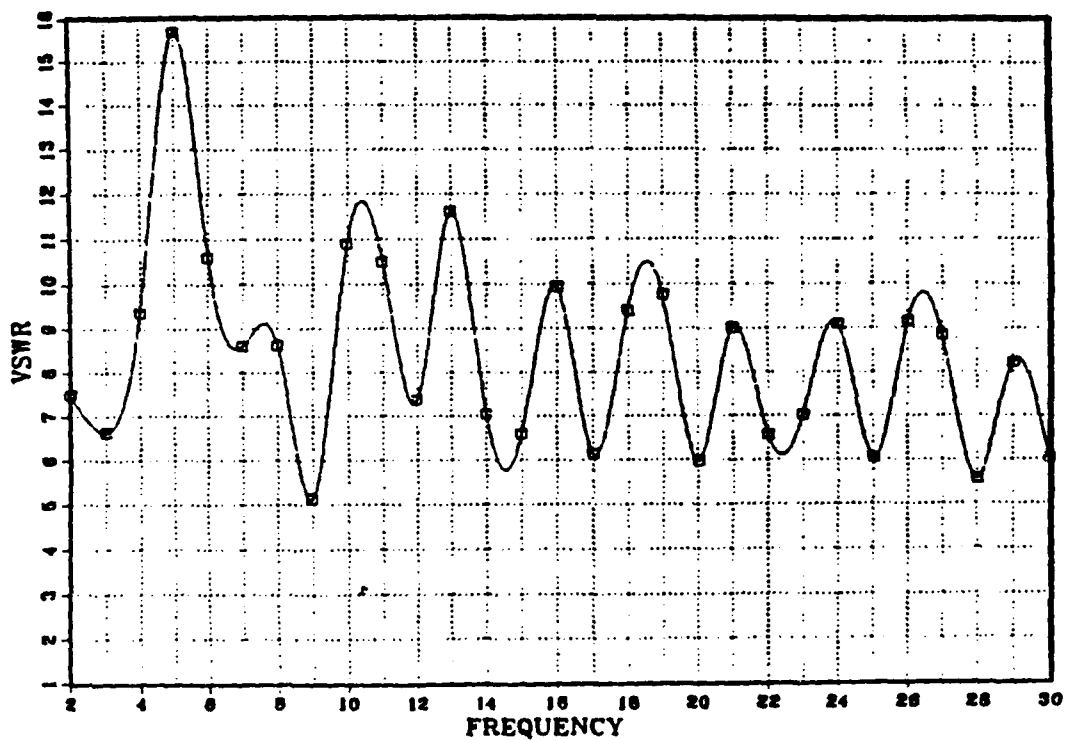


Figure 42. VSWR vs frequency for the ESI 32A2A Broadband DD antenna over perfect ground (normalized impedance = 50 ohms)

ESI 32A2A BROADBAND DD ANTENNA

VSWR VS FREQ/PRF.GND/ $Z_0=300$ OHMS

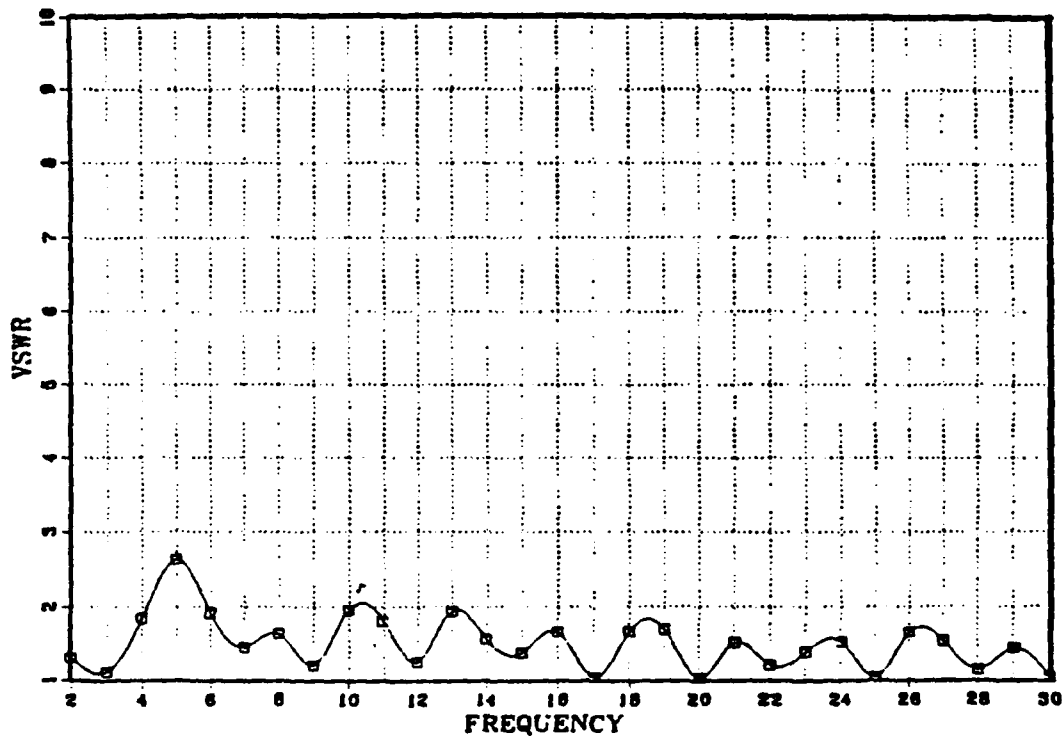


Figure 43. VSWR vs frequency for the ESI 32A2A Broadband DD antenna over perfect ground (normalized impedance = 300 ohms)

ESI 32A2A BROADBAND DD ANTENNA

VSWR VS FREQ/PRF.GND/Z0=600 OHMS

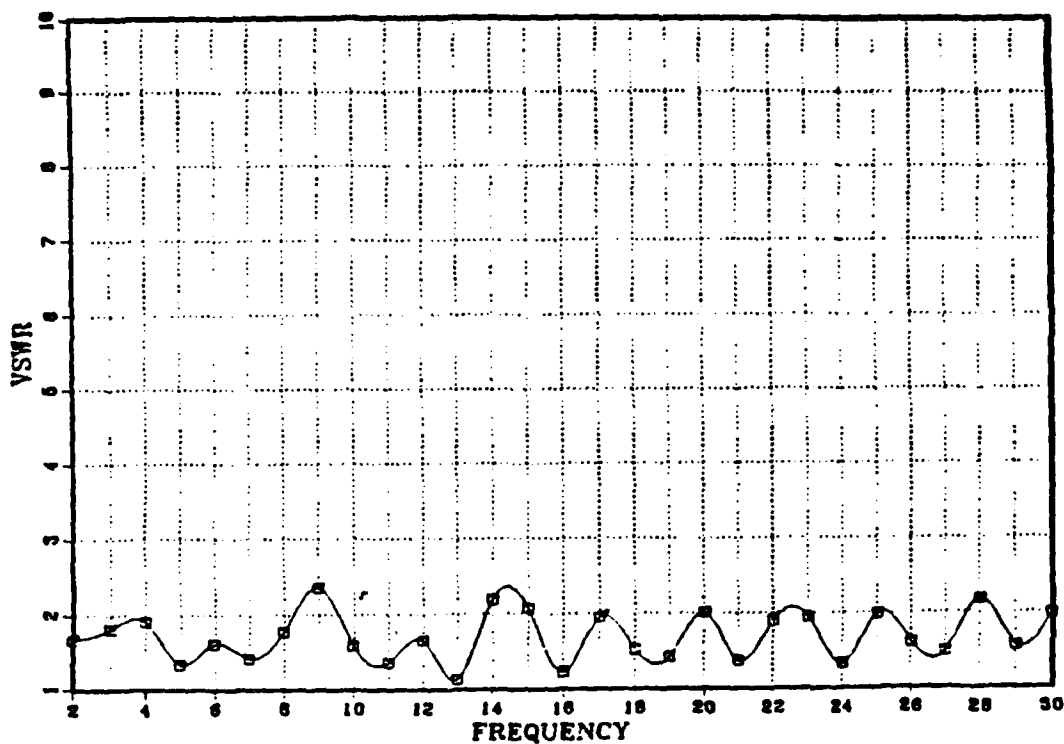


Figure 44. VSWR vs frequency for the ESI 32A2A Broadband DD antenna over perfect ground (normalized impedance = 600 ohms)

ESI 32A2A BROADBAND DD ANTENNA

COMPARISON VSWR VS FREQ/PERF.GND

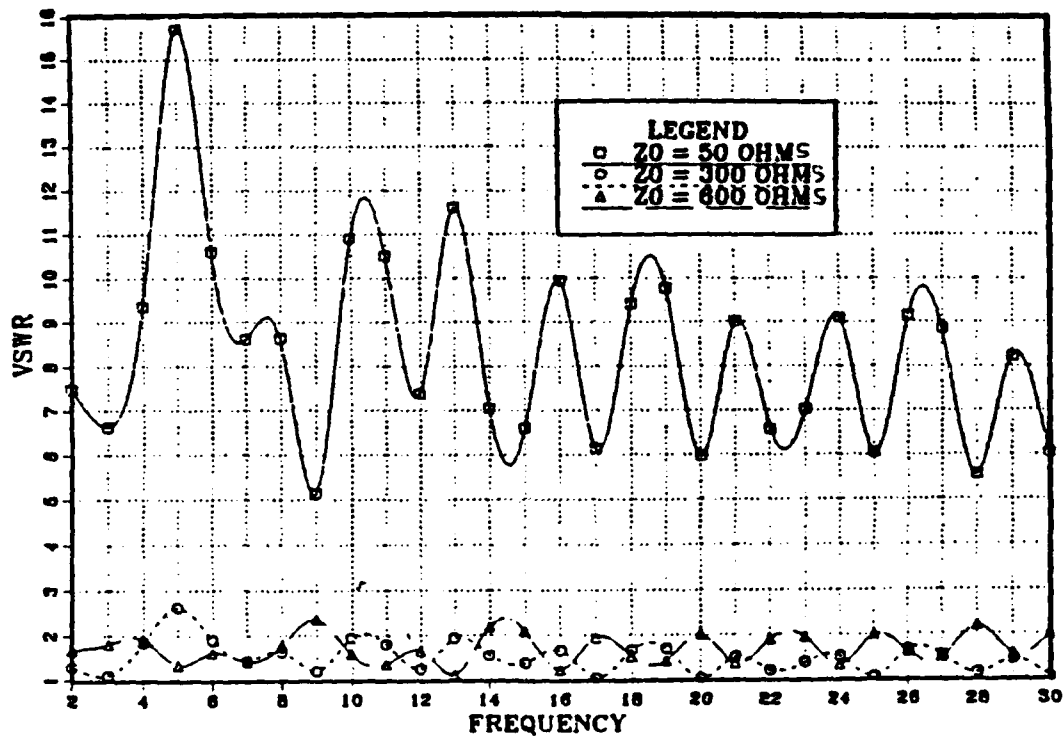


Figure 45. Comparison VSWR vs frequency for the ESI 32A2A Broadband DD antenna over perfect ground

ESI 32A2A BROADBAND DD ANTENNA

IMP. VS FREQ./PERF.GND/ $Z_0=50$ OHMS

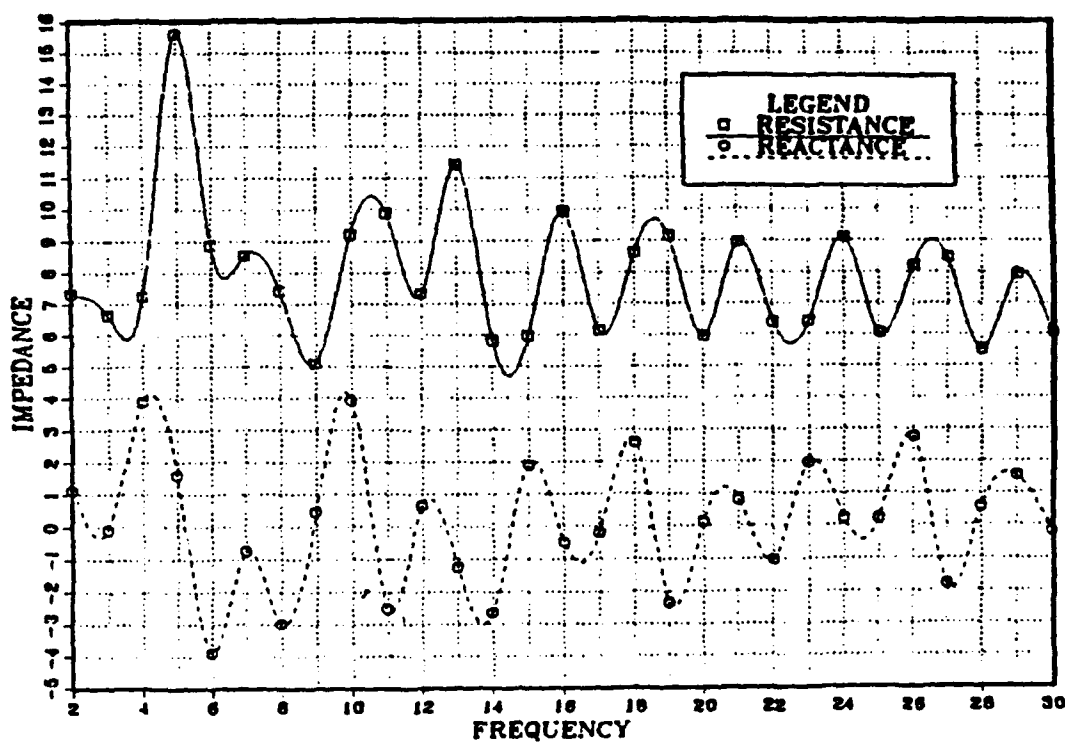


Figure 46. Impedance vs freq. for the ESI 32A2A Broadband DD antenna over perfect ground (normalized impedance = 50 ohms)

ESI 32A2A BROADBAND DD ANTENNA

IMP. VS FREQ/PRF.GND/ $Z_0=300$ OHMS

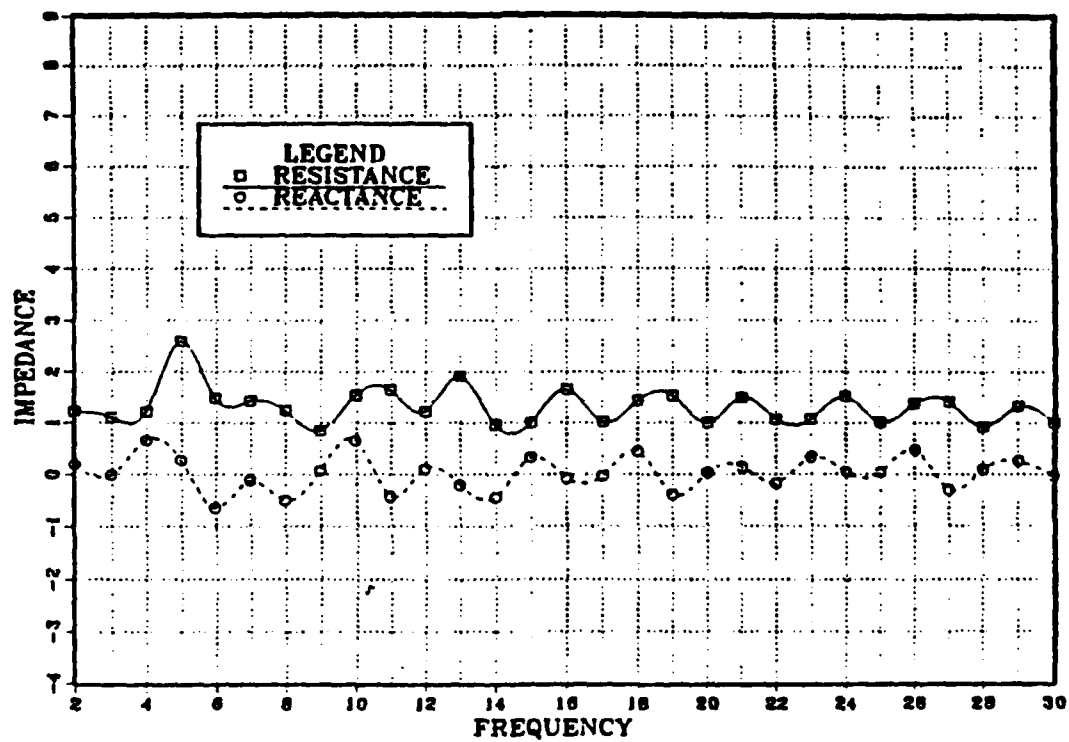


Figure 47. Impedance vs freq. for the ESI 32A2A Broadband DD antenna over perfect ground (normalized impedance = 300 ohms)

ESI 32A2A BROADBAND DD ANTENNA

IMP. VS FREQ/PRF.GND/ $Z_0=600$ OHMS

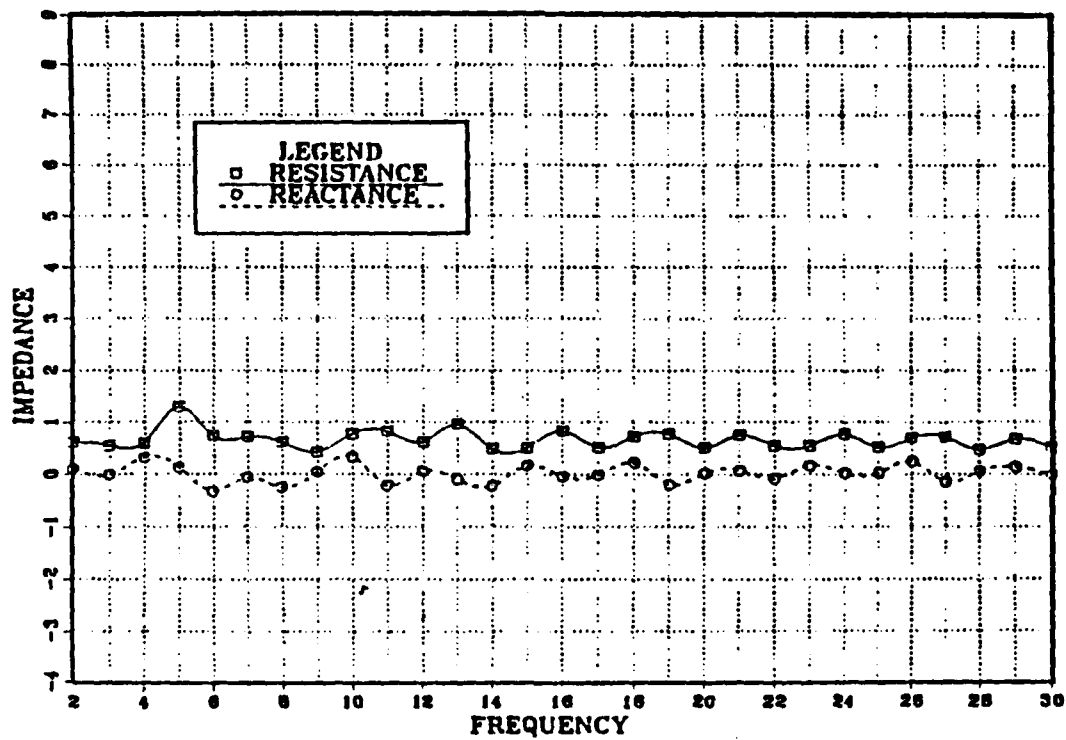


Figure 48. Impedance vs freq. for the ESI 32A2A Broadband DD antenna over perfect ground (normalized impedance = 600 ohms)

ESI 32A2A BROADBAND DD ANTENNA

ELEVATION PATTERN (BORESIGHT)

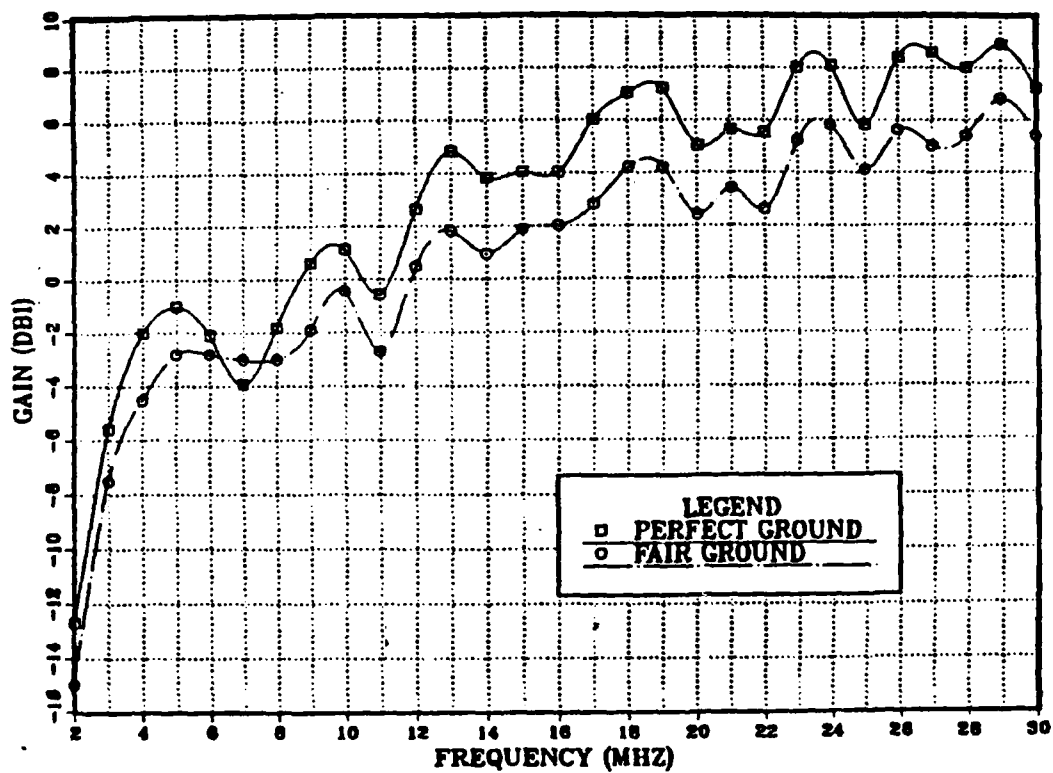


Figure 49. Max. gain vs freq. for the ESI 32A2A Broadband DD antenna over perfect ground and fair ground (boresight)

ESI 32A2A BROADBAND DD ANTENNA

ELEVATION PATTERN (BROADSIDE)

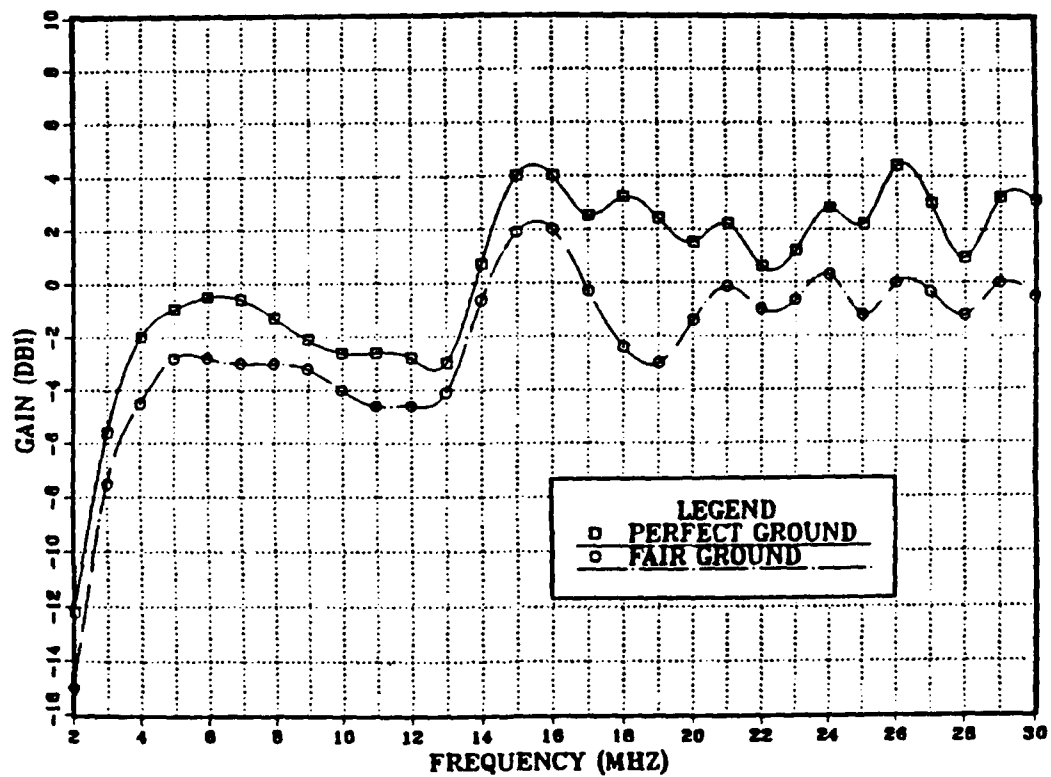
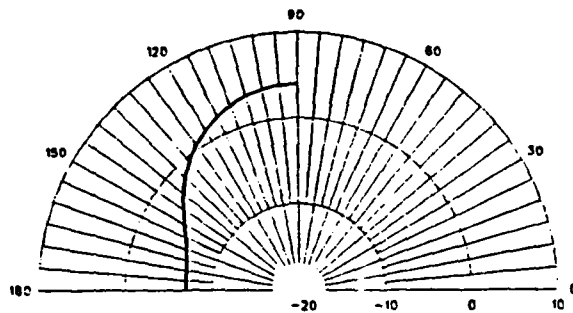
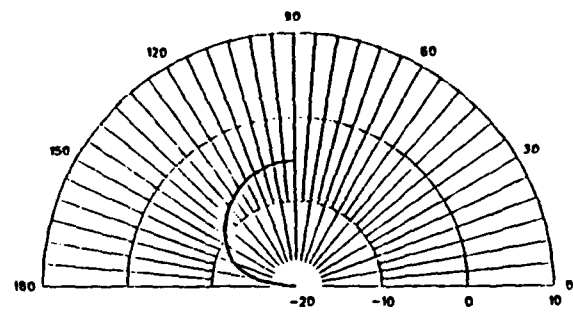


Figure 50. Max. gain vs frequency for the ESI 32A2A Broadband DD antenna over perfect ground and fair ground (broadside)

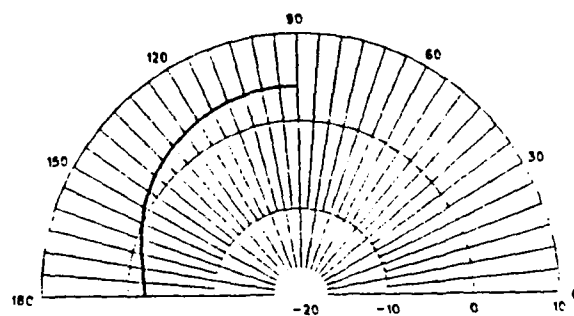
ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 2 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 2 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 2 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 2 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

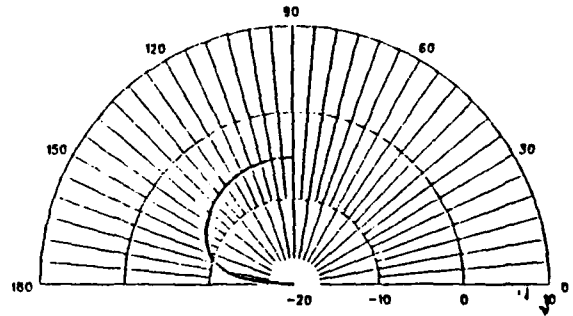
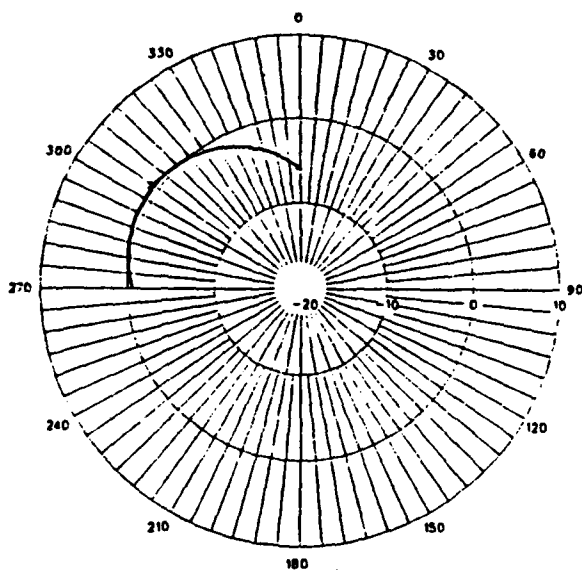
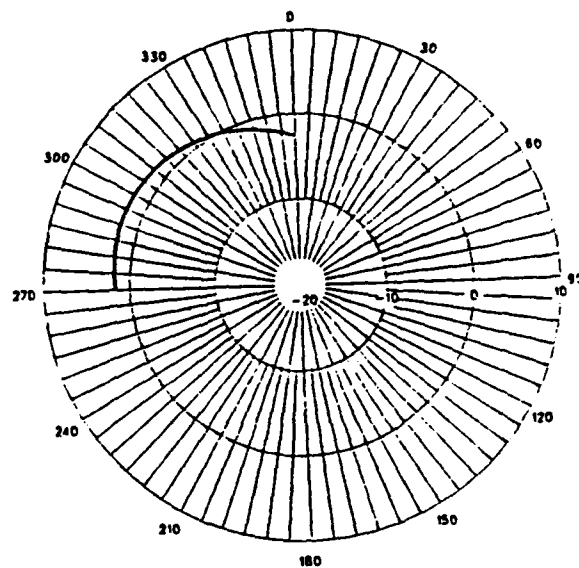


Figure 51. Elevation patterns of the Army Lowband DD antenna over perfect ground and fair ground at 2 MHz

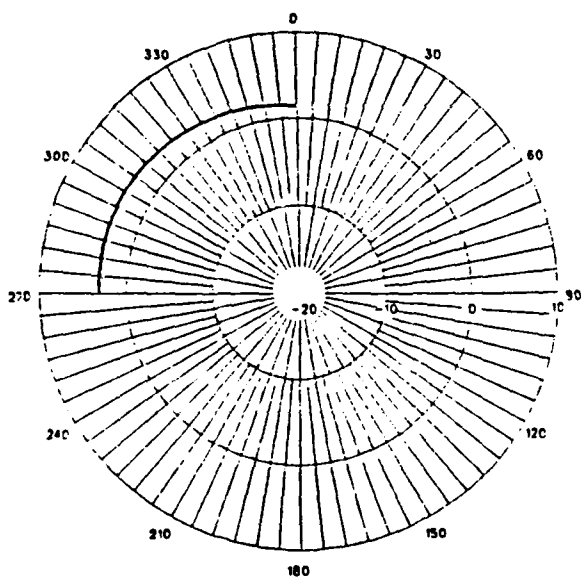
ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

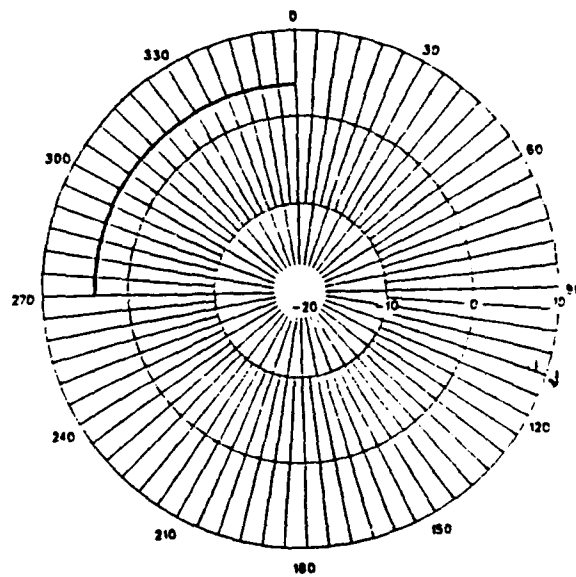
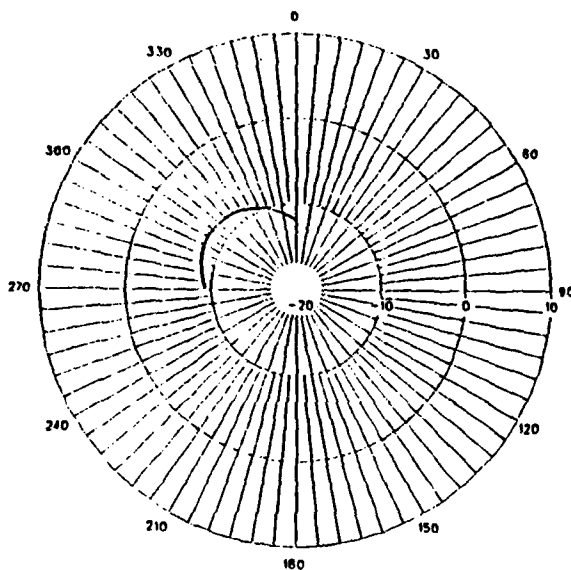
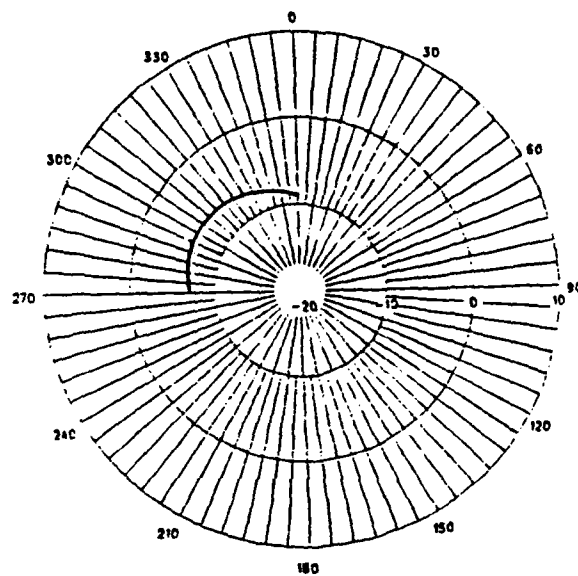


Figure 52. Azimuth patterns of the Army Lowband DD antenna over perfect ground at 2 MHz

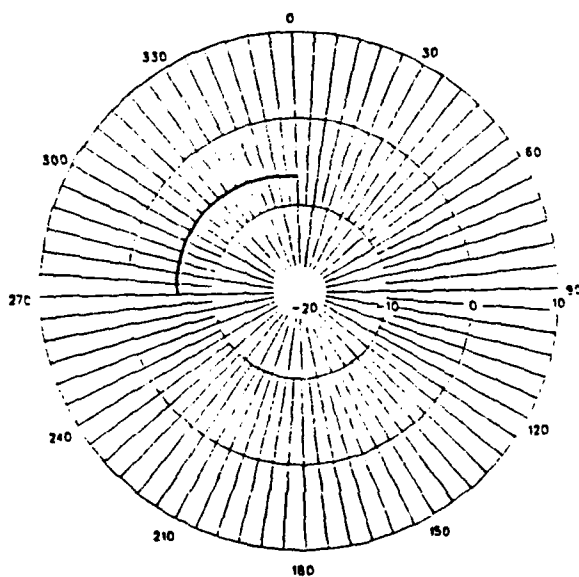
ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

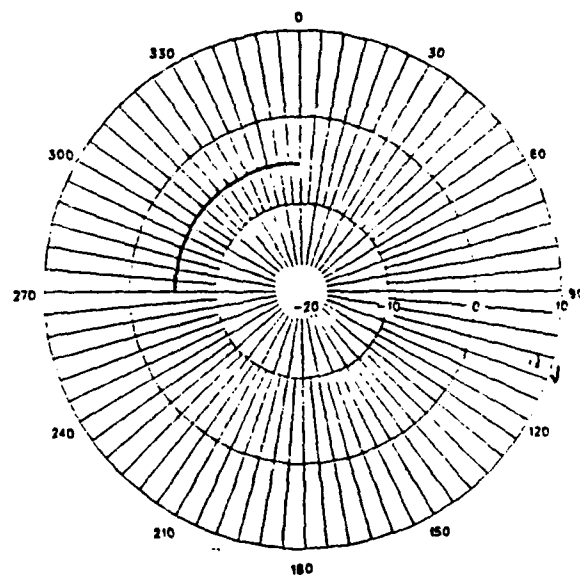


Figure 53. Azimuth patterns of the Army Lowband DD antenna over fair ground at 2 MHz

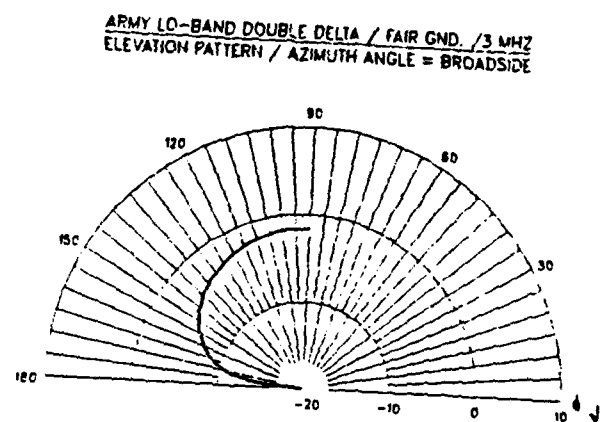
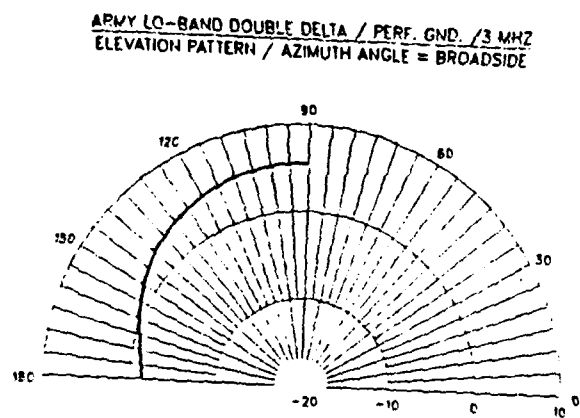
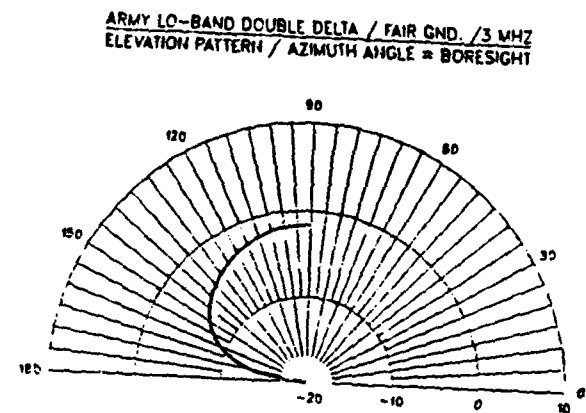
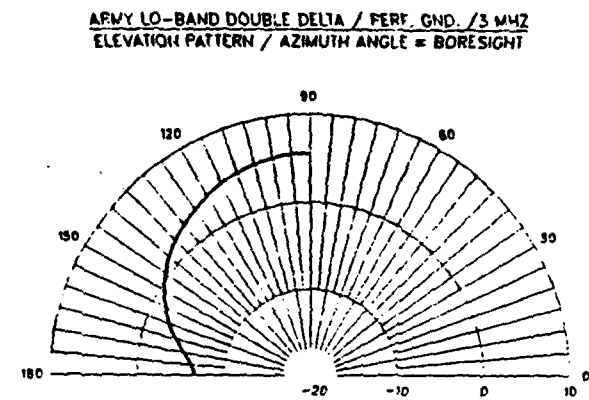
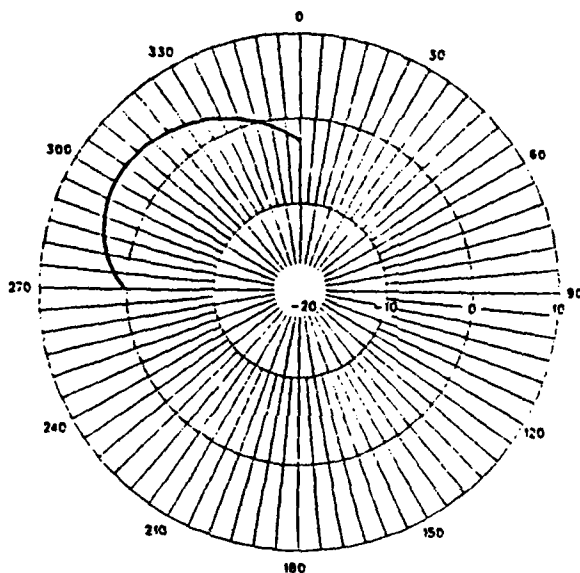
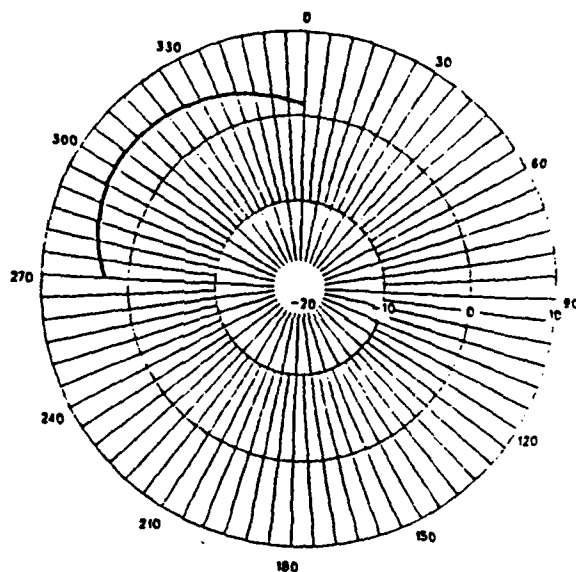


Figure 54. Elevation patterns of the Army Lowband DD antenna over perfect ground and fair ground at 3 MHz

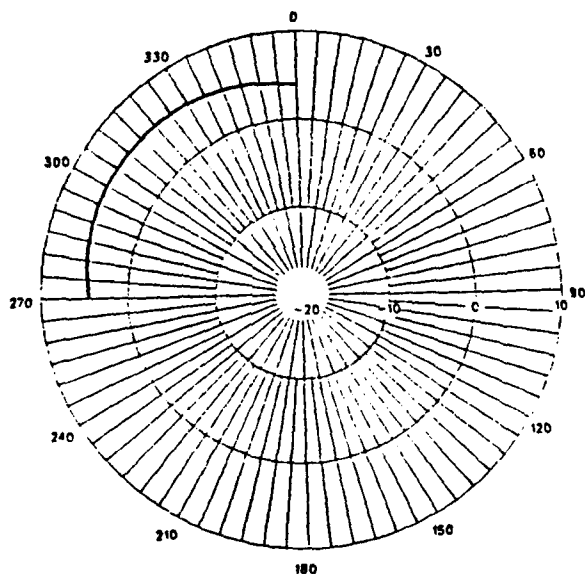
ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

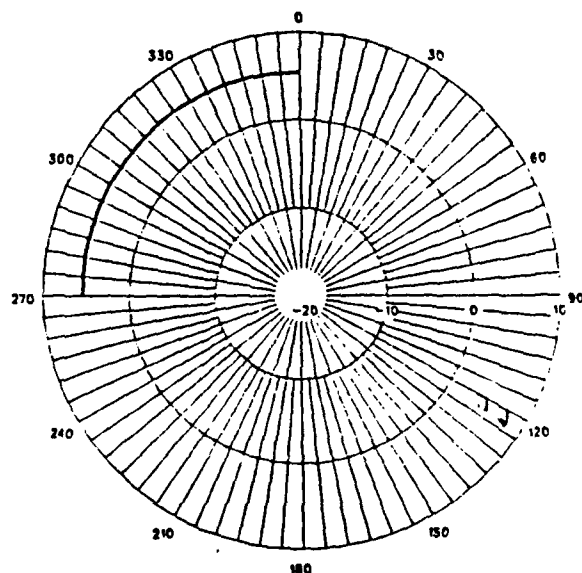
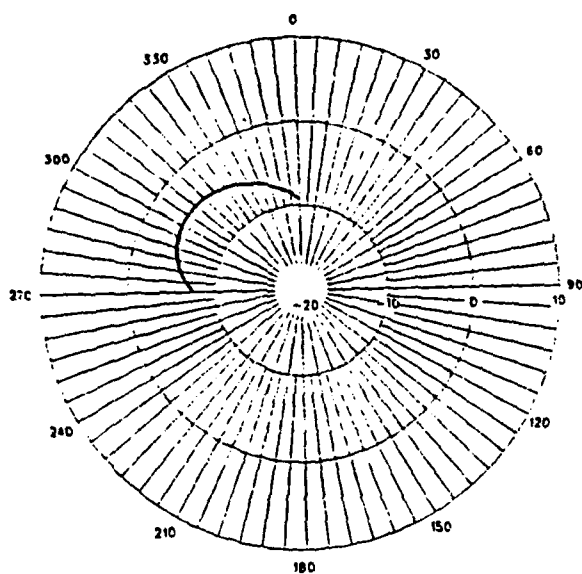
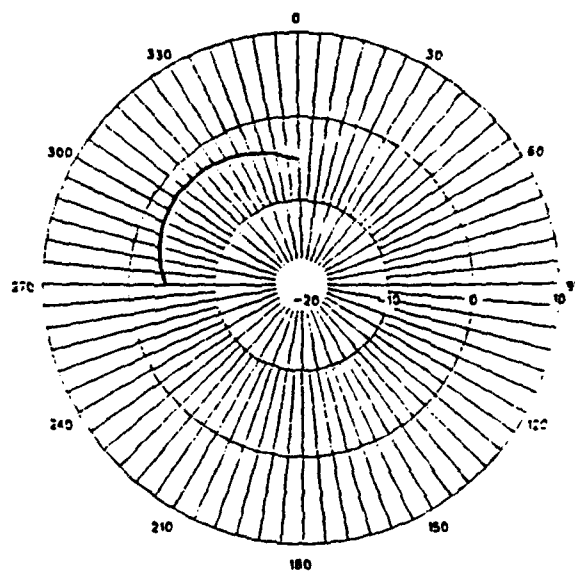


Figure 55. Azimuth patterns of the Army Lowband DD antenna over perfect ground at 3 MHz

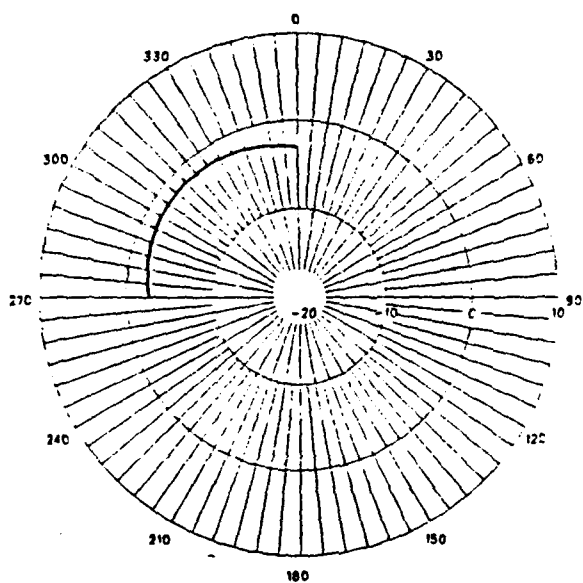
ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

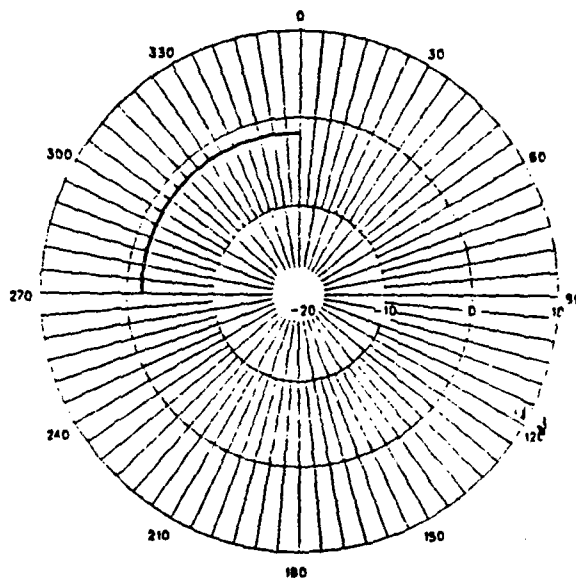
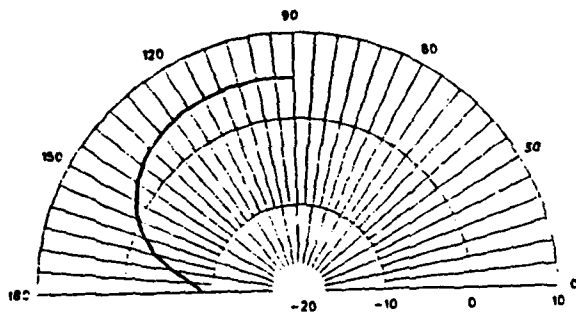
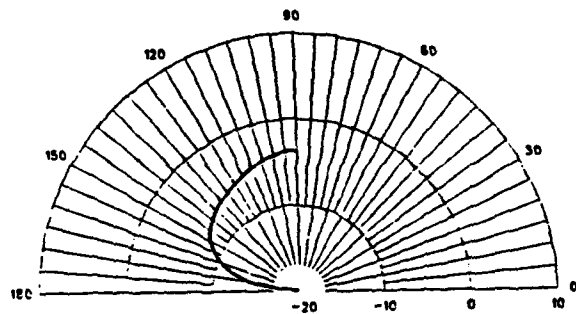


Figure 56. Azimuth patterns of the Army Lowband DD antenna over fair ground at 3 MHz

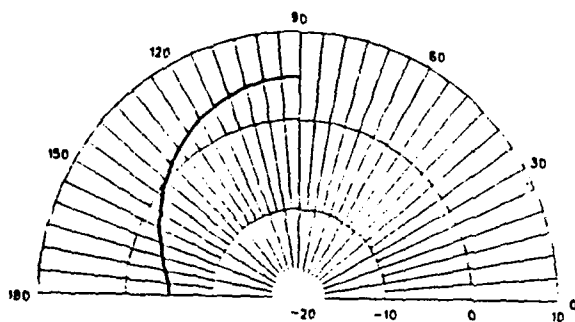
ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 4 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 4 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 4 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 4 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

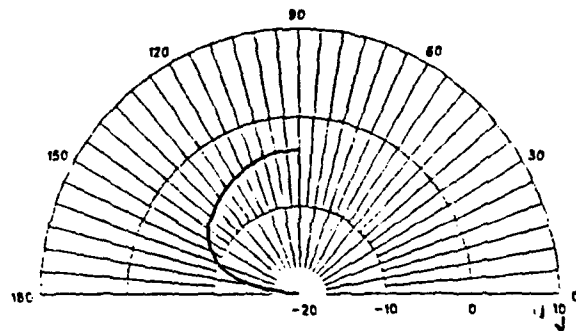
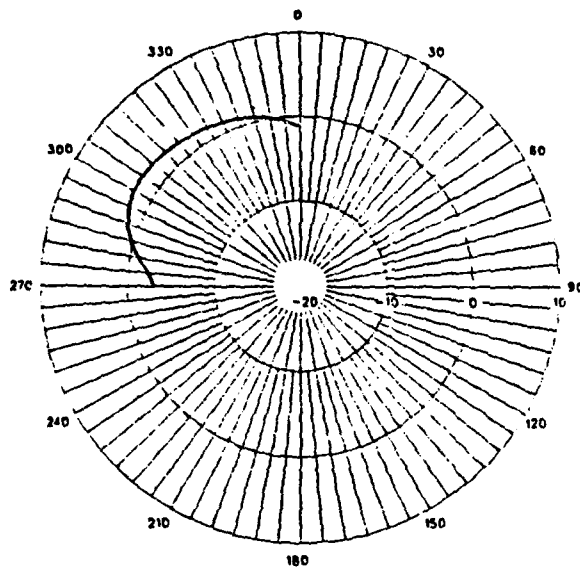
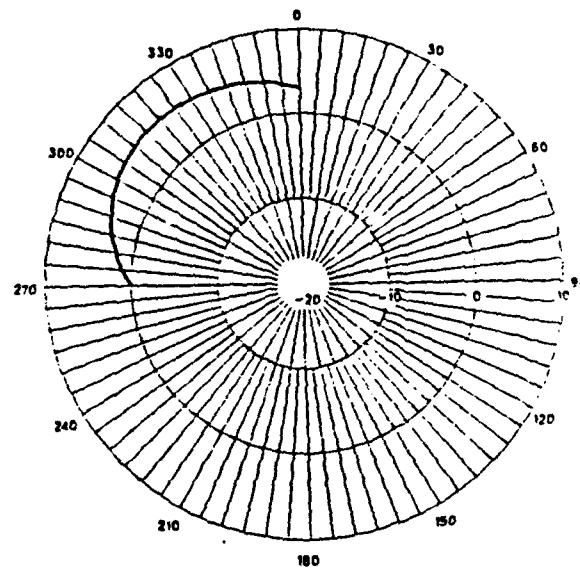


Figure 57. Elevation patterns of the Army Lowband DD antenna over perfect ground and fair ground at 4 MHz

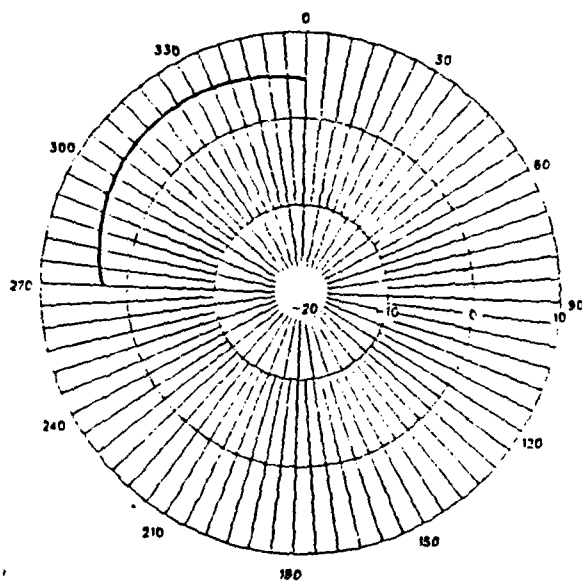
ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

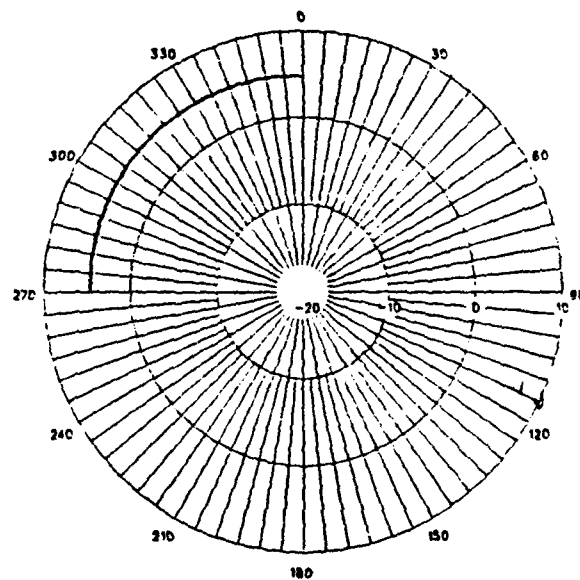
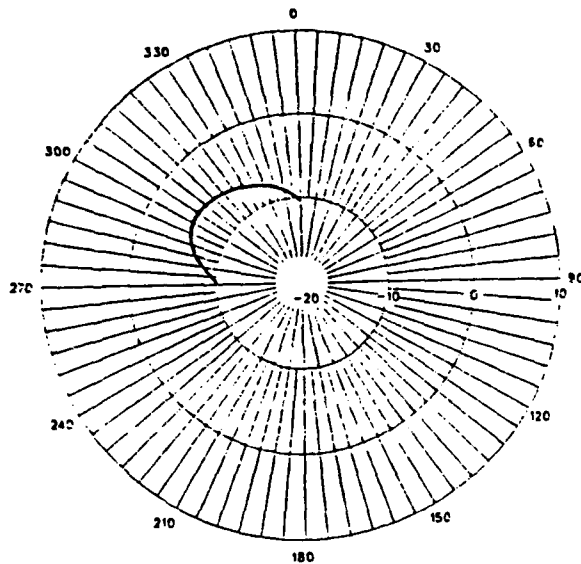
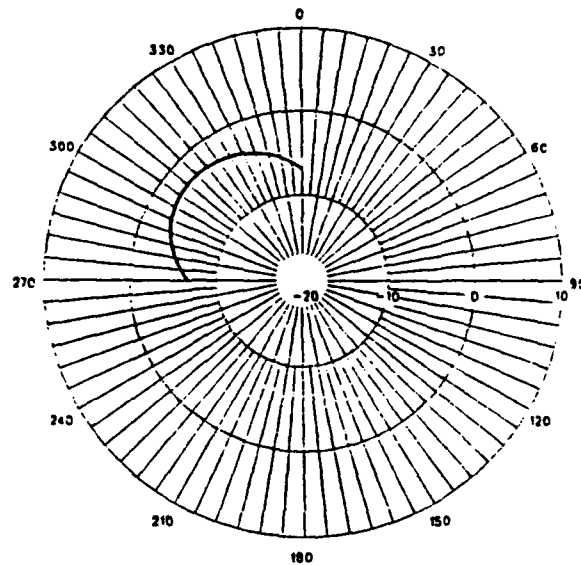


Figure 58. Azimuth patterns of the Army Lowband DD antenna over perfect ground at 4 MHz

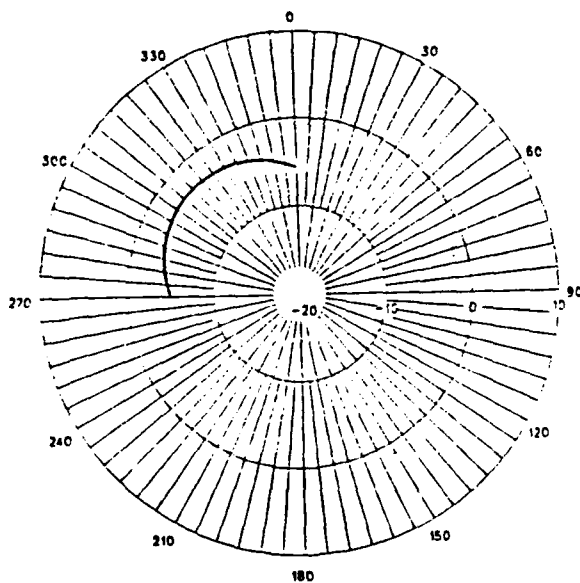
ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

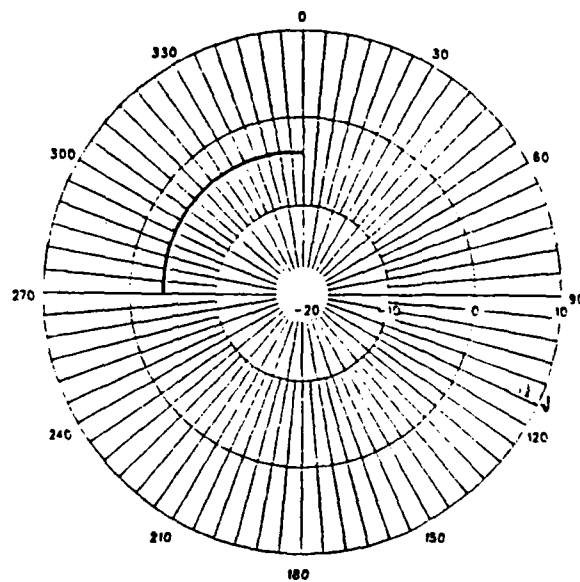
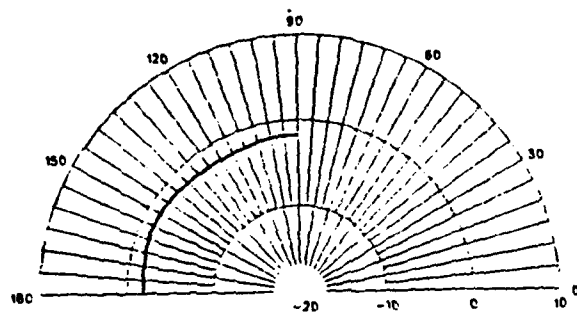
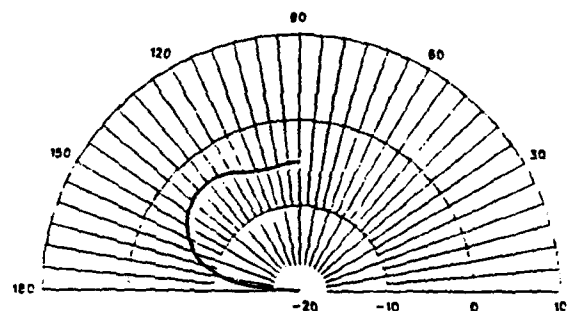


Figure 59. Azimuth patterns of the Army Lowband DD antenna over fair ground at 4 MHz

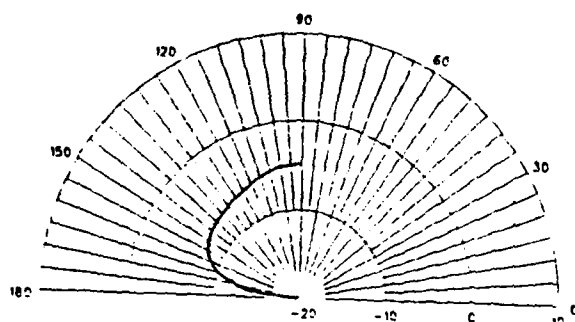
ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 5 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 5 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 5 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 5 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT

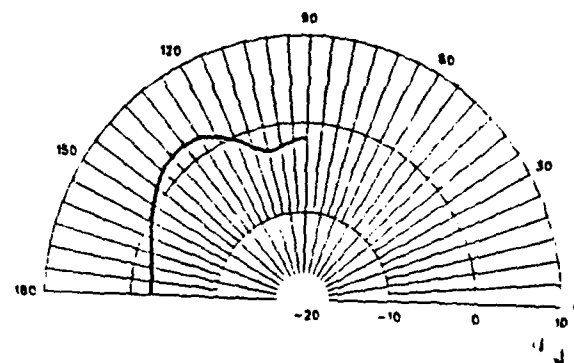
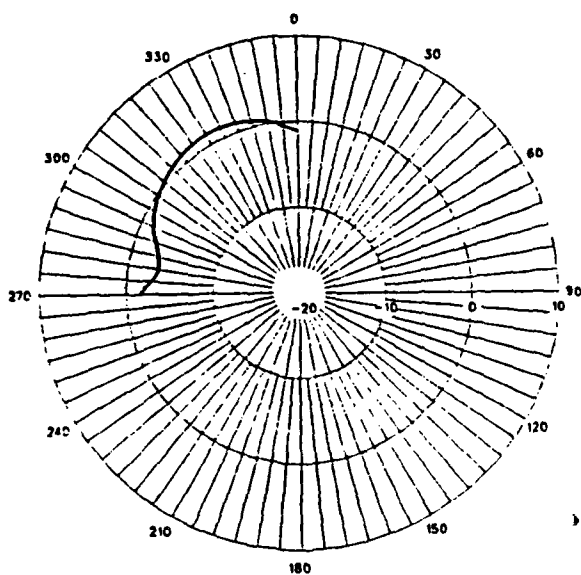
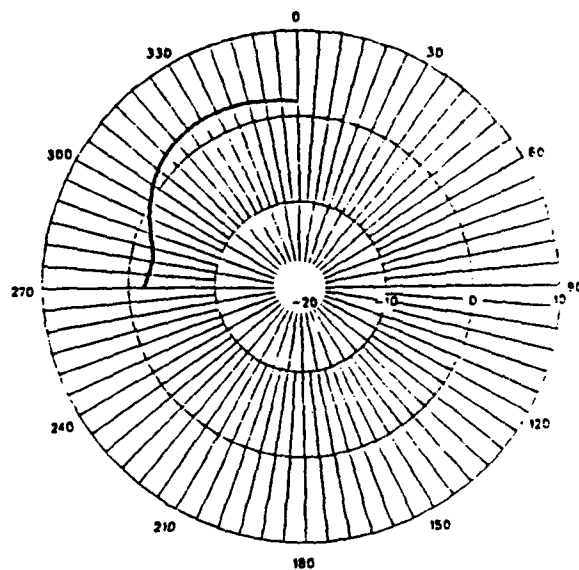


Figure 60. Elevation patterns of the Army Lowband DD antenna over perfect ground and fair ground at 5 MHz

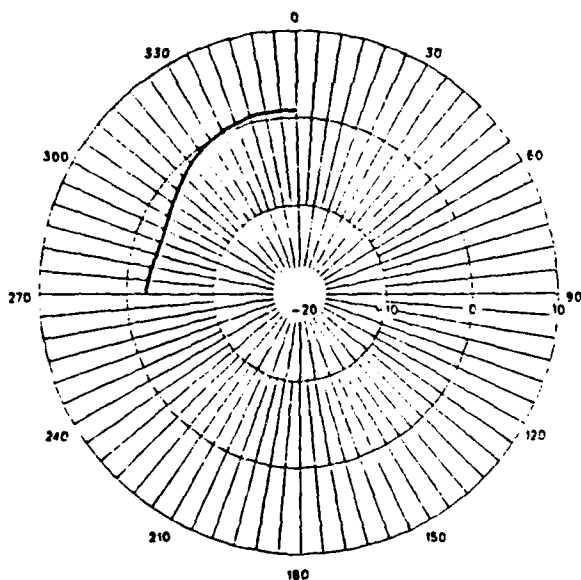
ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

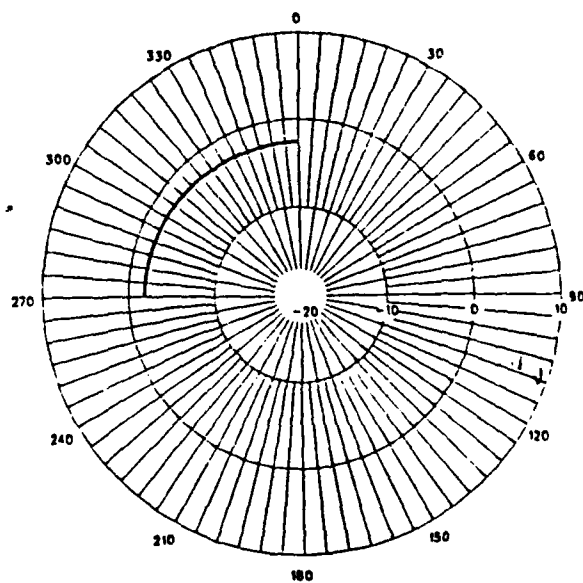
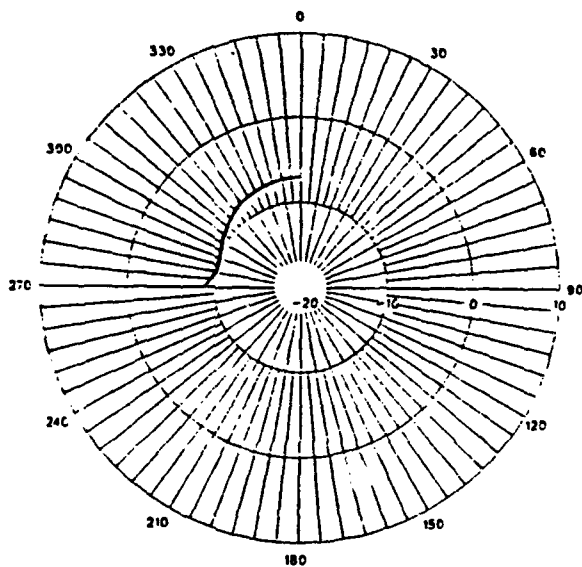
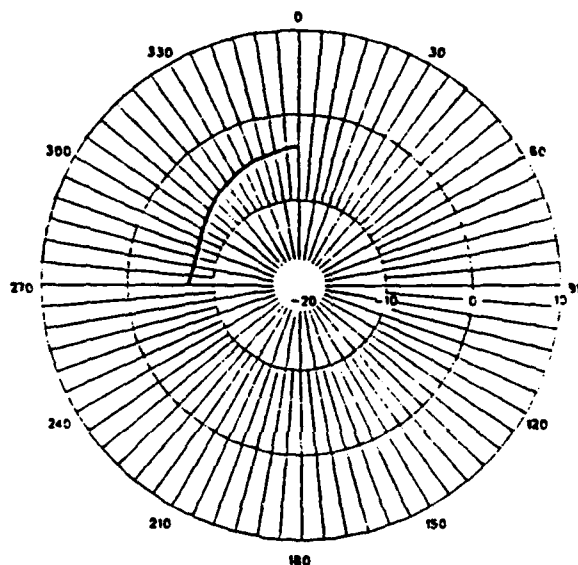


Figure 61. Azimuth patterns of the Army Lowband DD antenna over perfect ground at 5 MHz

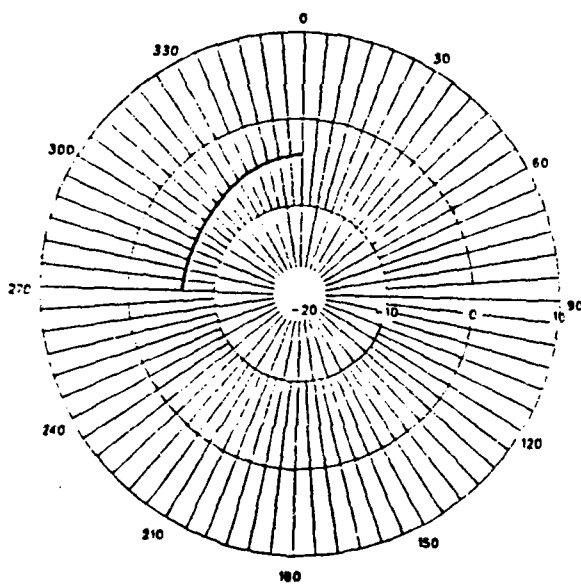
ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

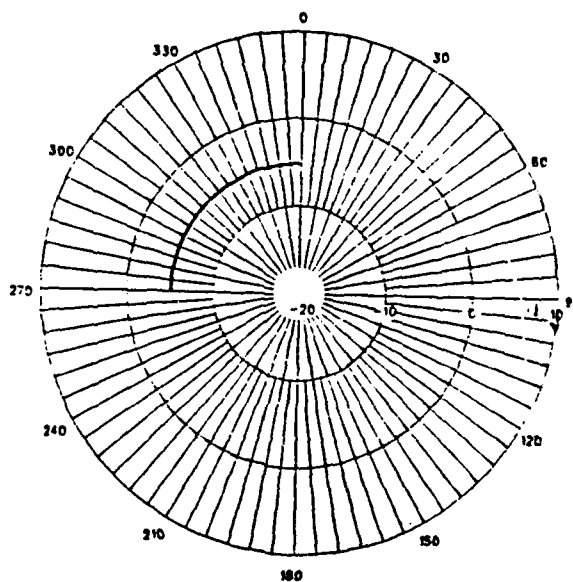
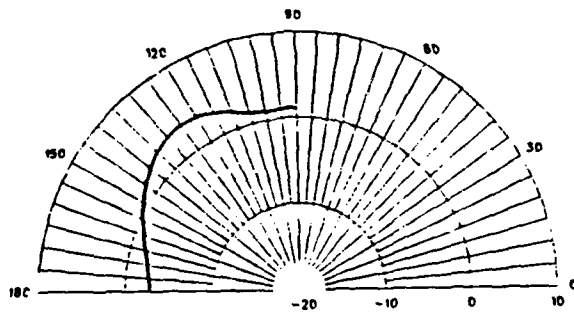
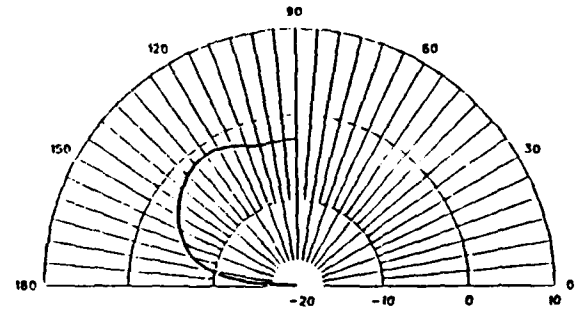


Figure 62. Azimuth patterns of the Army Lowband DD antenna over fair ground at 5 MHz

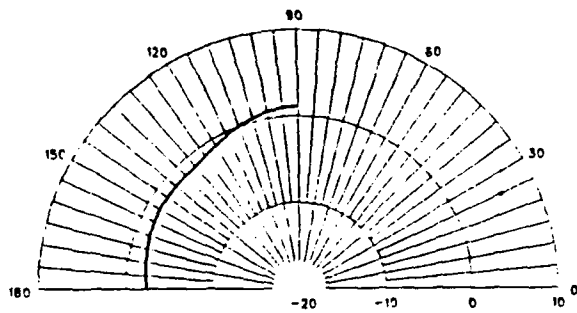
ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 6 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 6 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 6 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 6 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

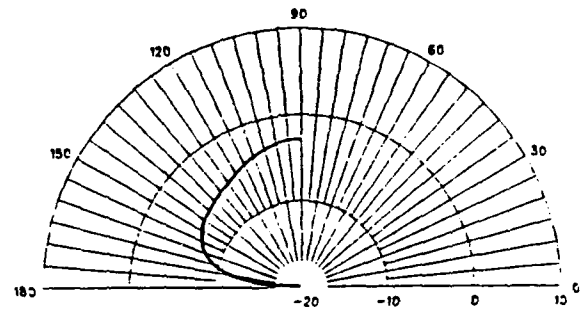
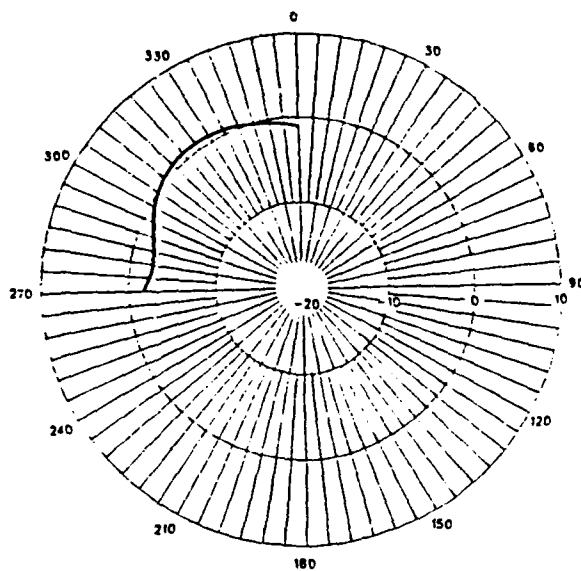
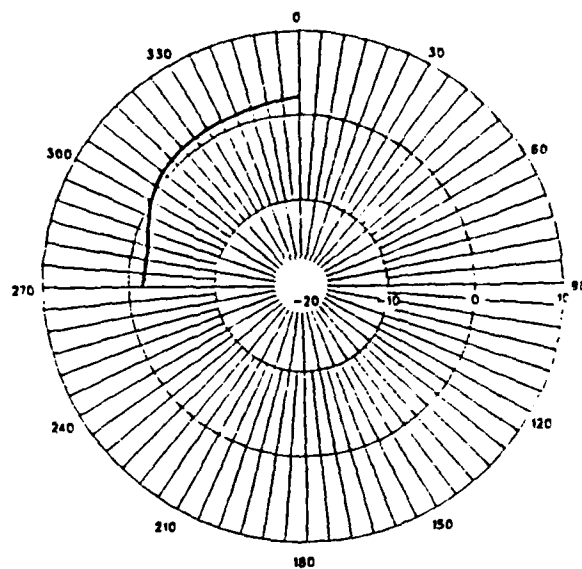


Figure 63. Elevation patterns of the Army Lowband DD antenna over perfect ground and fair ground at 6 MHz

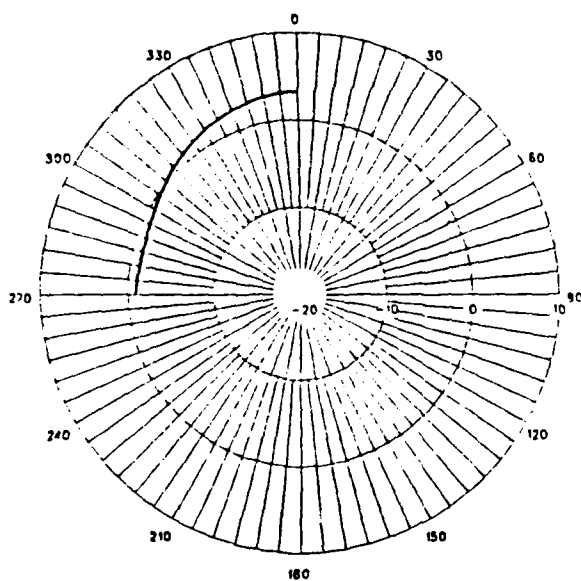
ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

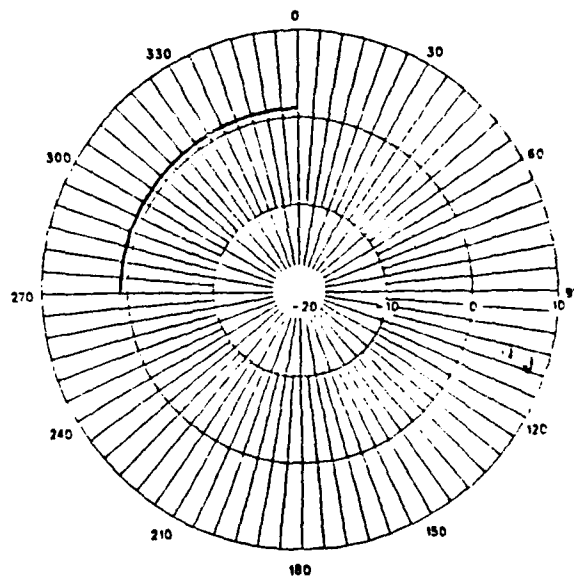
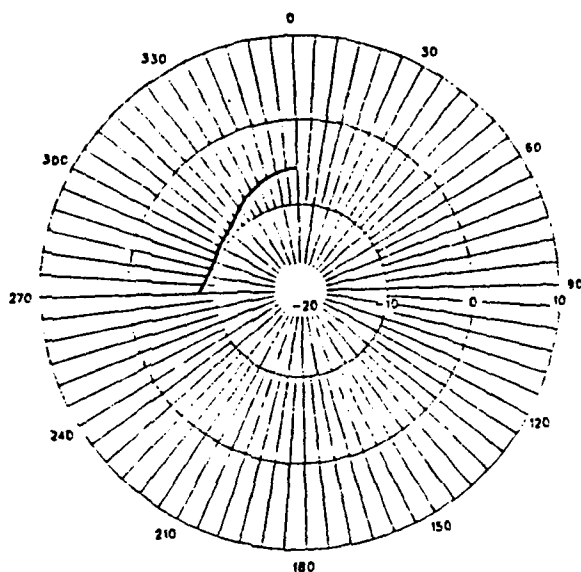
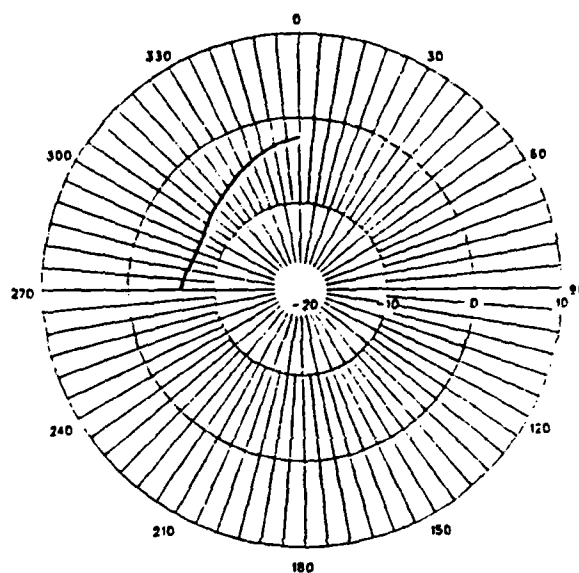


Figure 64. Azimuth patterns of the Army Lowband DD antenna over perfect ground at 6 MHz

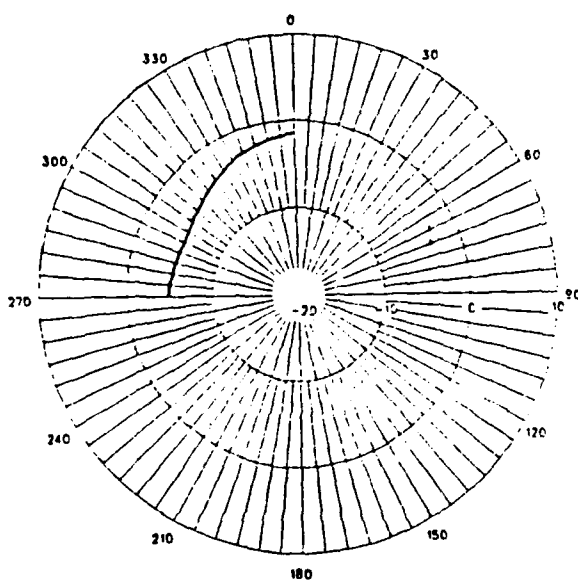
ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

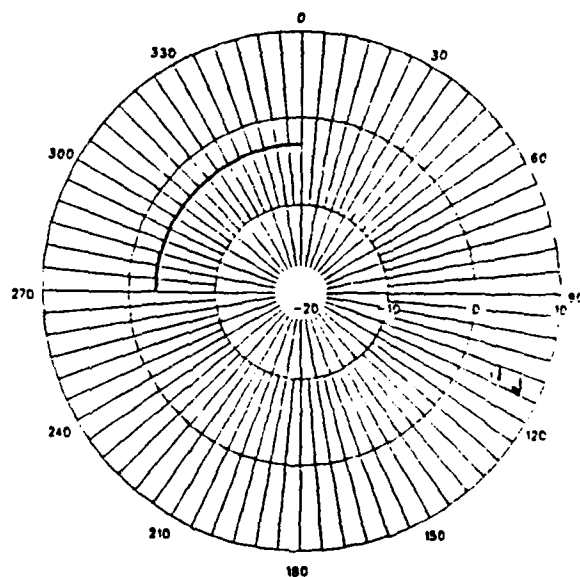
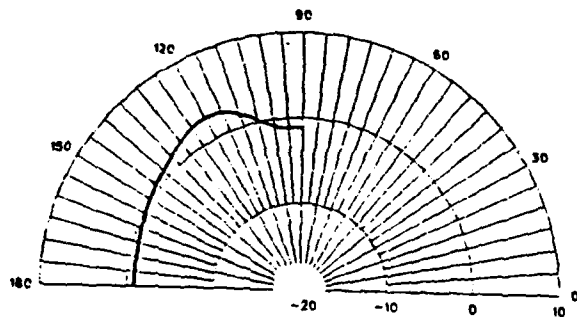
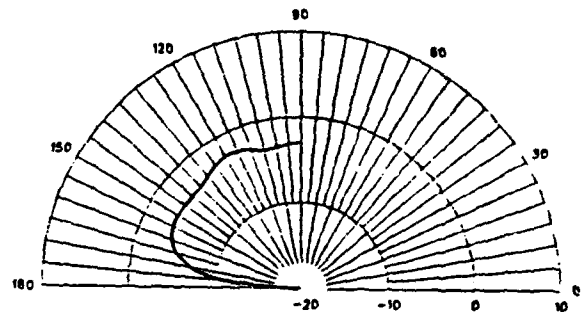


Figure 65. Azimuth patterns of the Army Lowband DD antenna over fair ground at 6 MHz

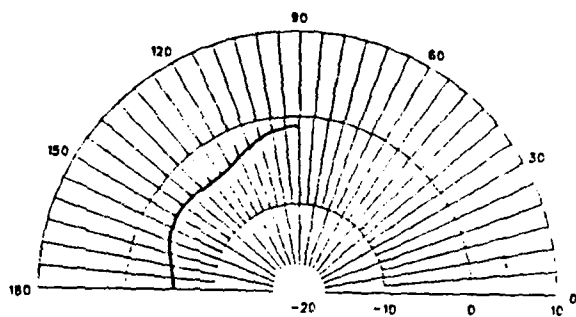
ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 7 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 7 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 7 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 7 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

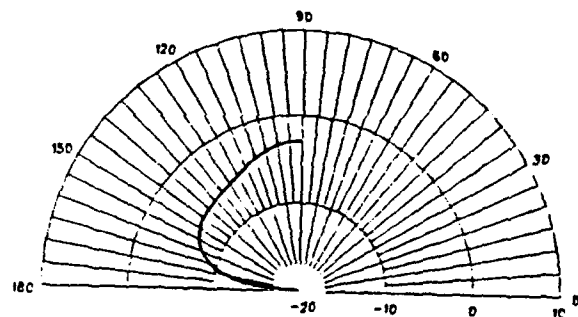
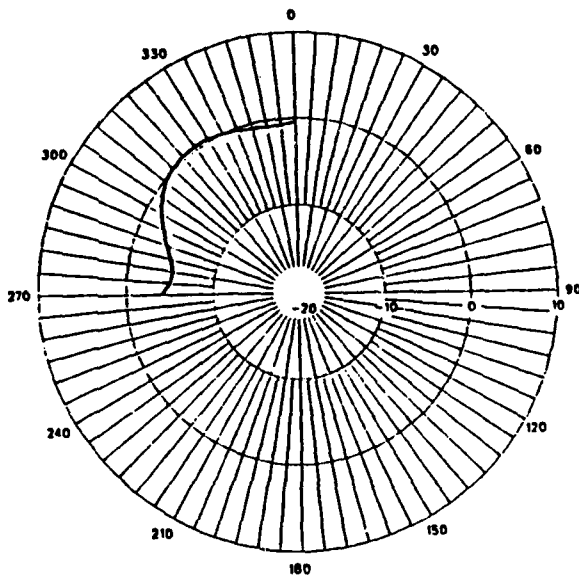
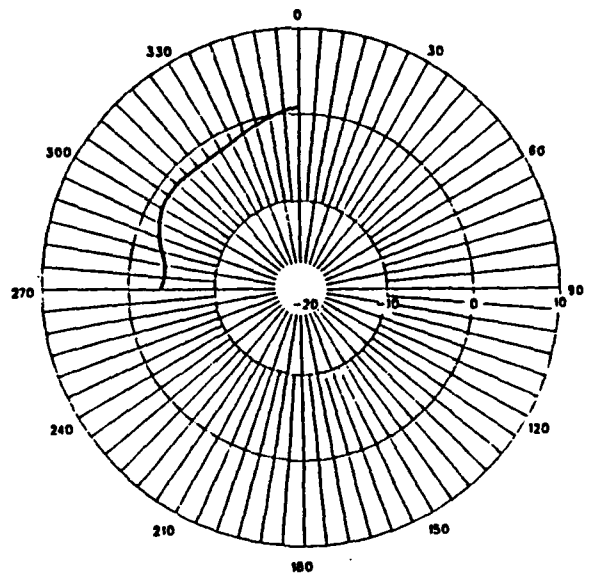


Figure 66. Elevation patterns of the Army Lowband DD antenna over perfect ground and fair ground at 7 MHz

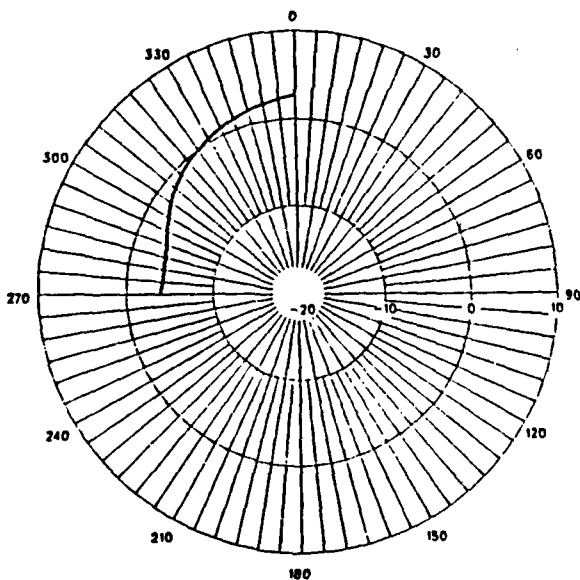
ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

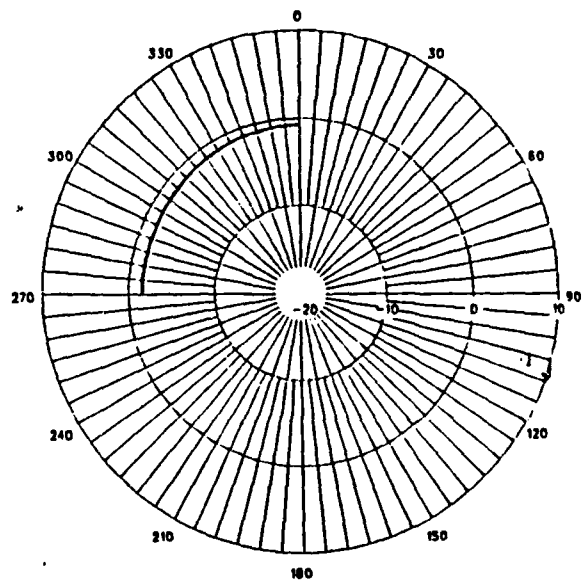
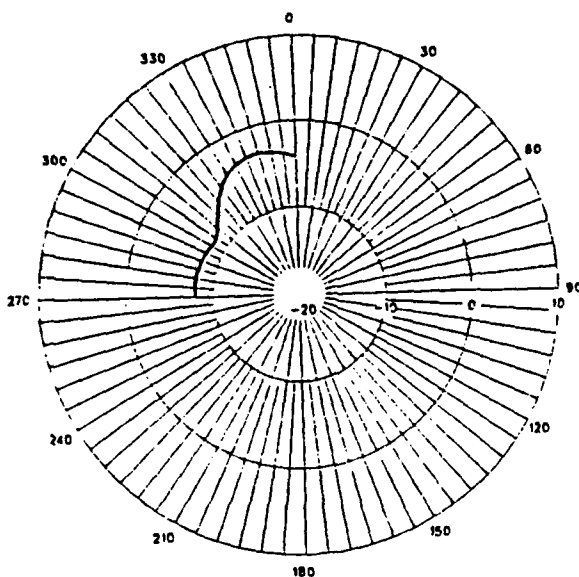
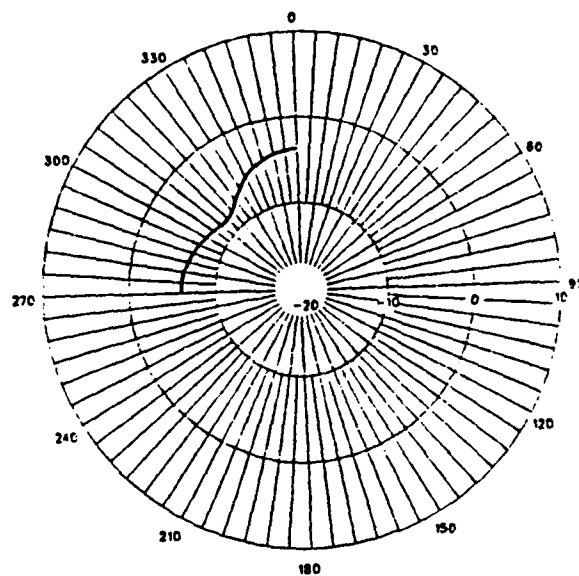


Figure 67. Azimuth patterns of the Army Lowband DD antenna over perfect ground at 7 MHz

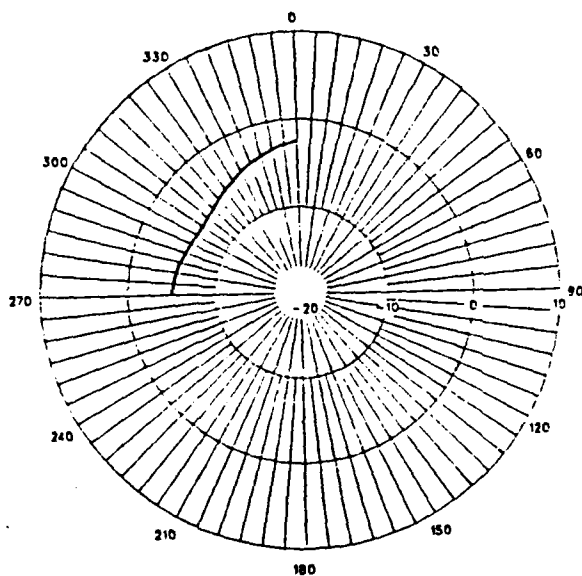
ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

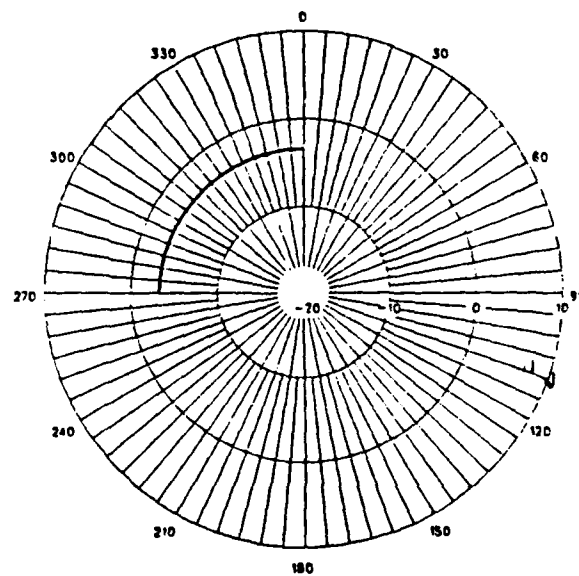
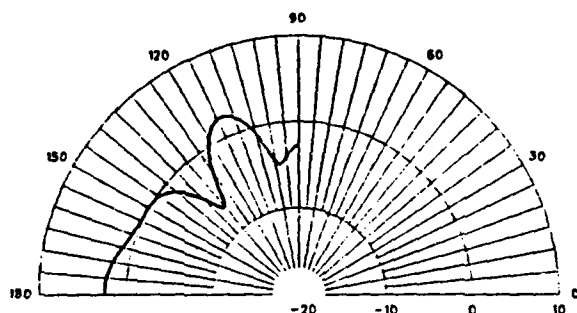
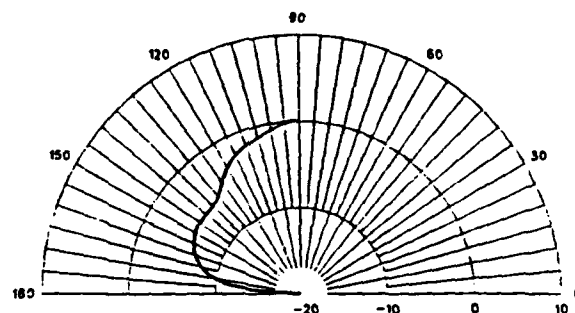


Figure 68. Azimuth patterns of the Army Lowband DD antenna over fair ground at 7 MHz

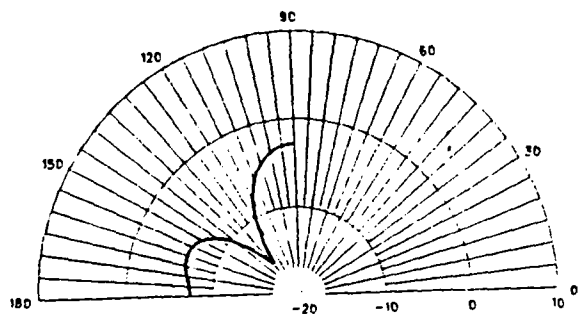
ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

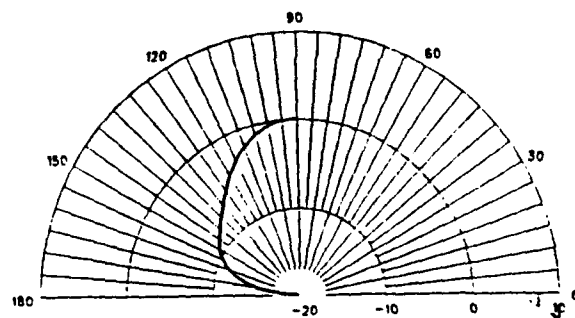
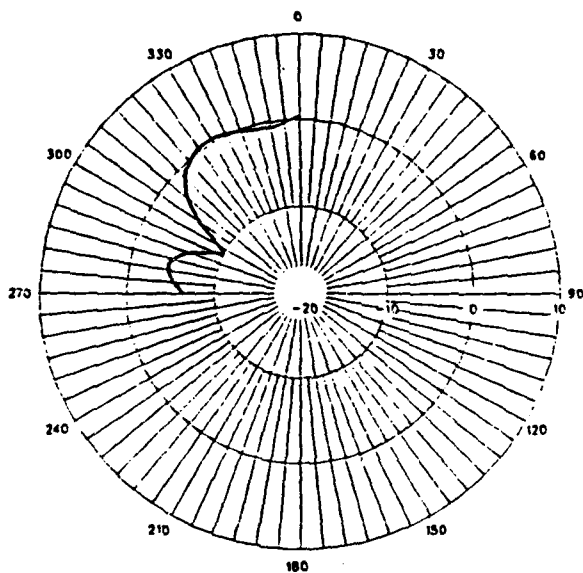
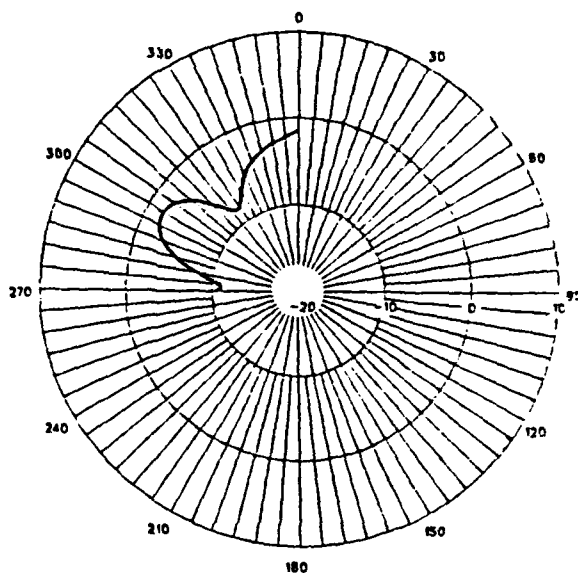


Figure 69. Elevation patterns of the Army Lowband DD antenna over perfect ground and fair ground at 8 MHz

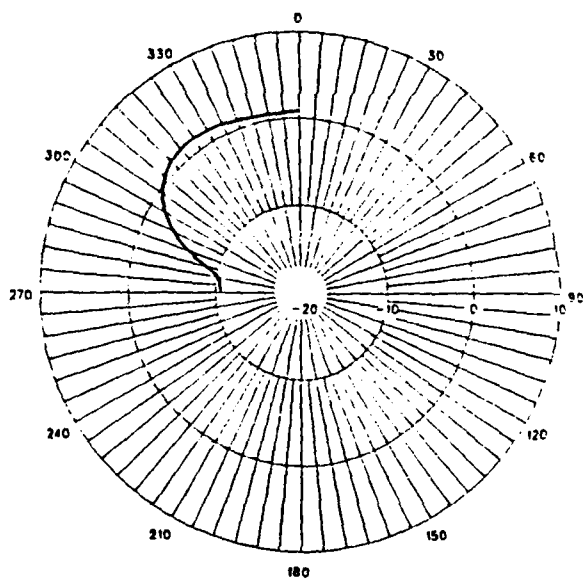
ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

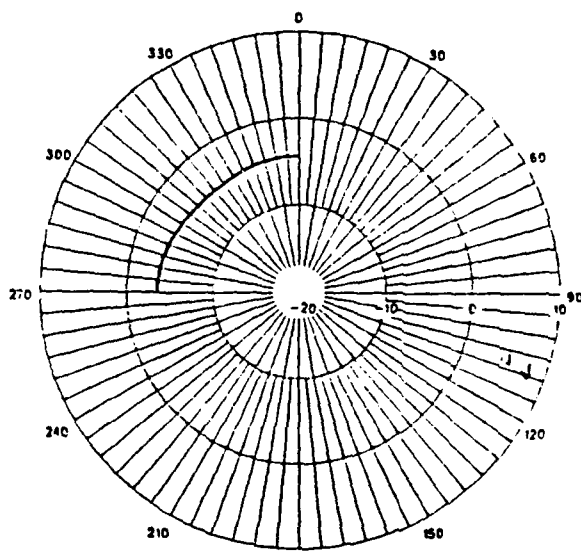
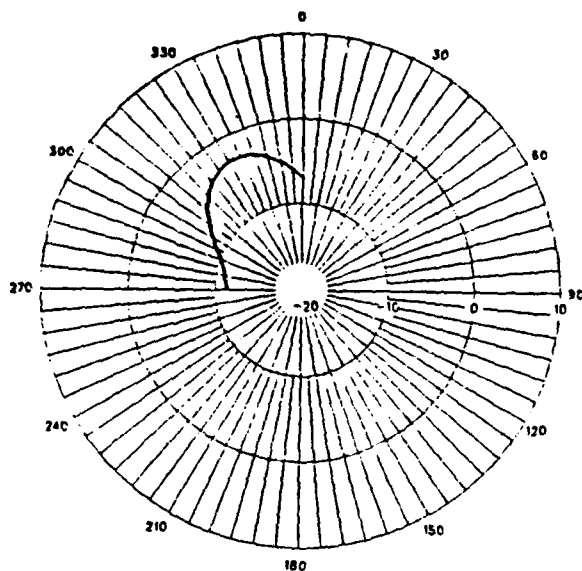
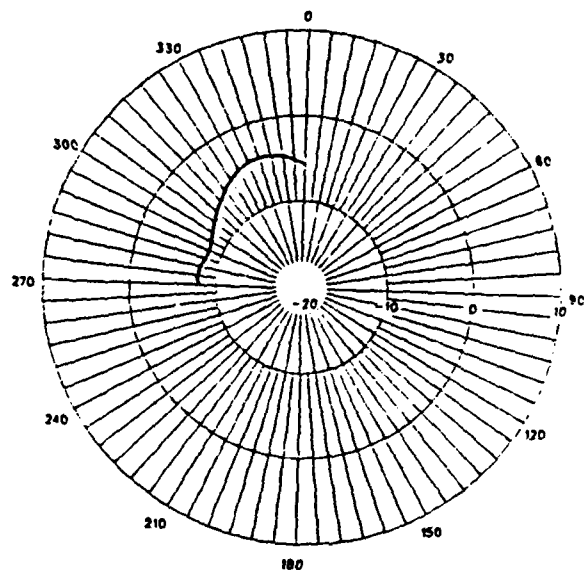


Figure 70. Azimuth patterns of the Army Lowband DD antenna over perfect ground at 8 MHz

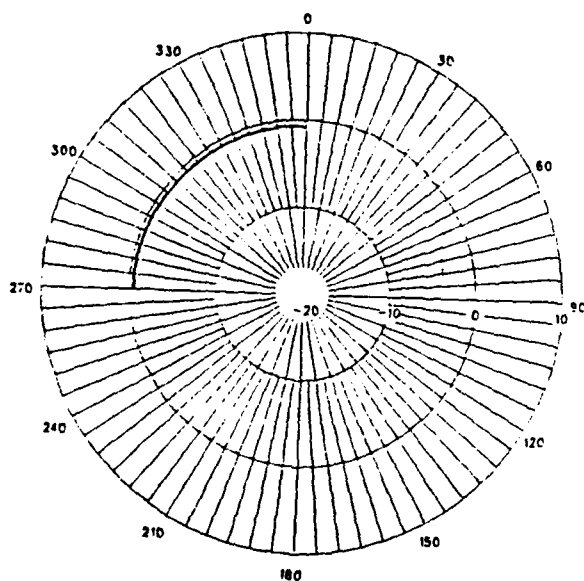
ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

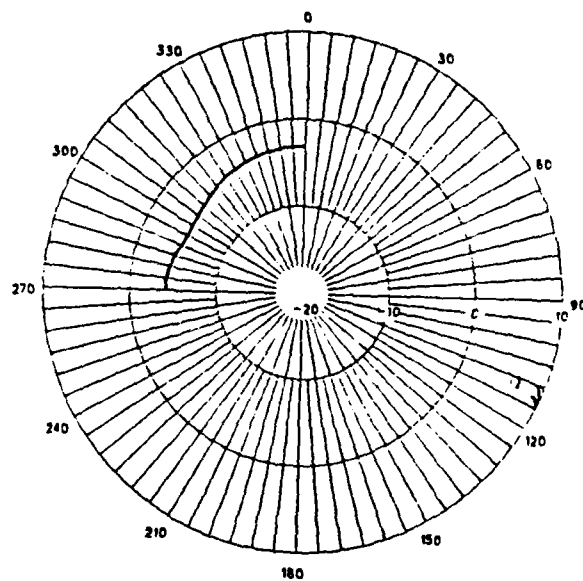
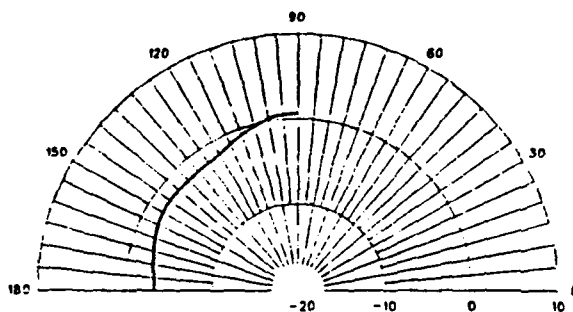
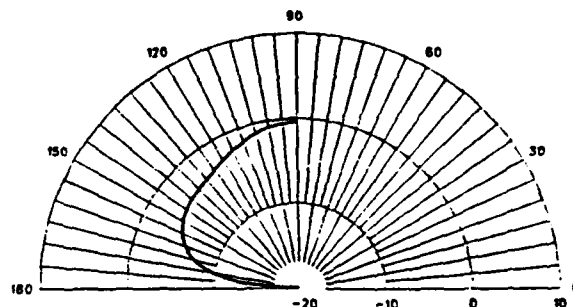


Figure 71. Azimuth patterns of the Army Lowband DD antenna over fair ground at 8 MHz

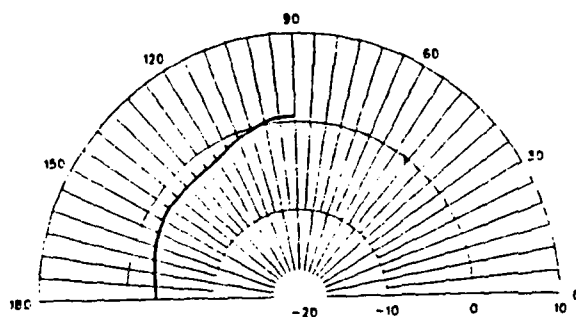
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

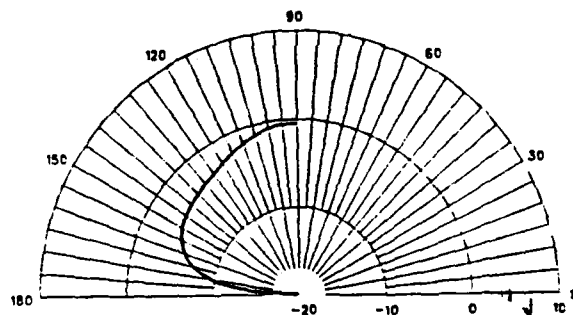
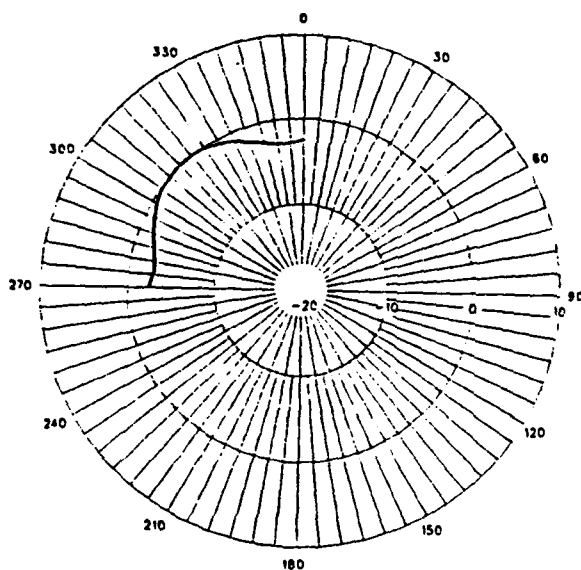
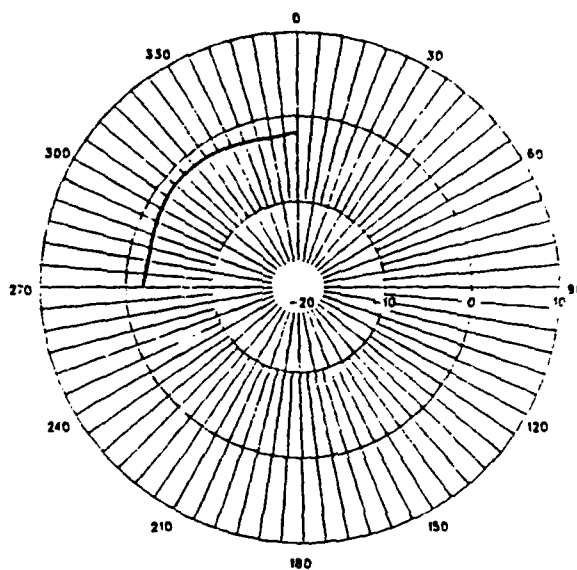


Figure 72. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 8 MHz

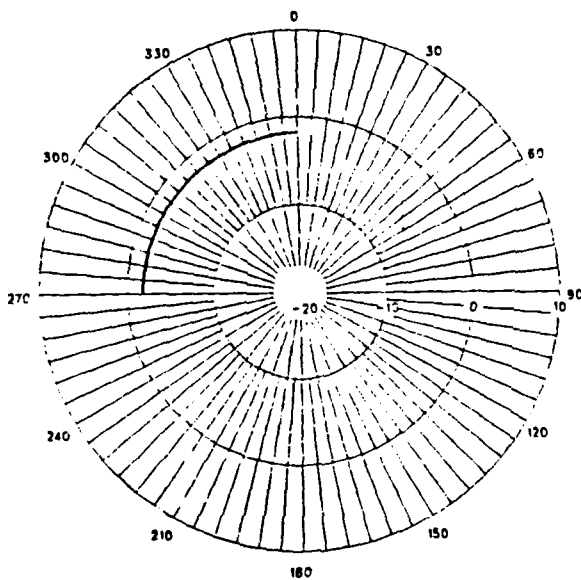
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

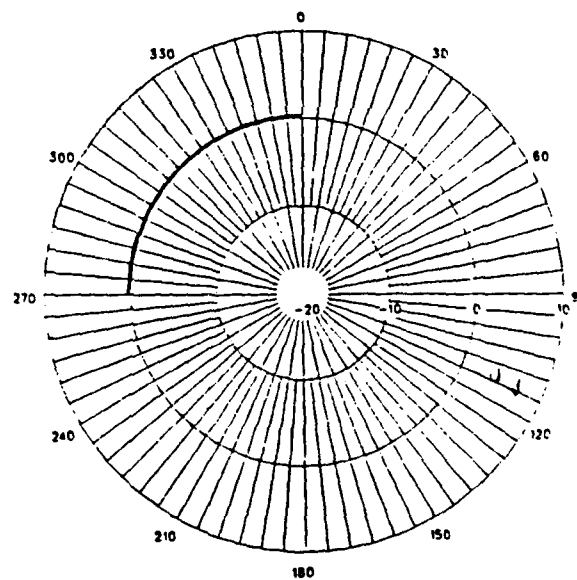
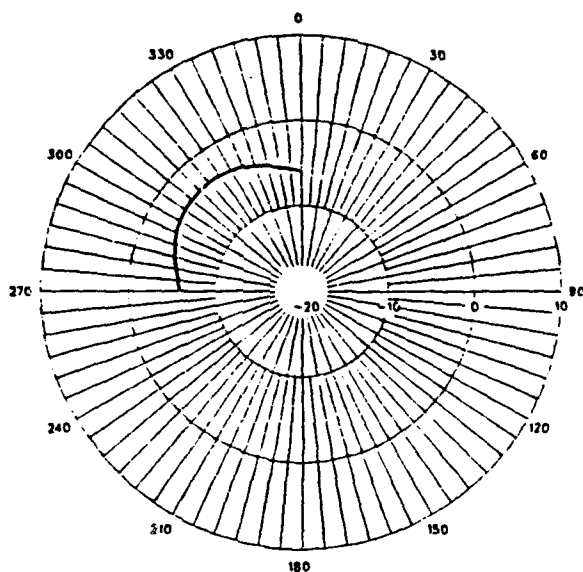
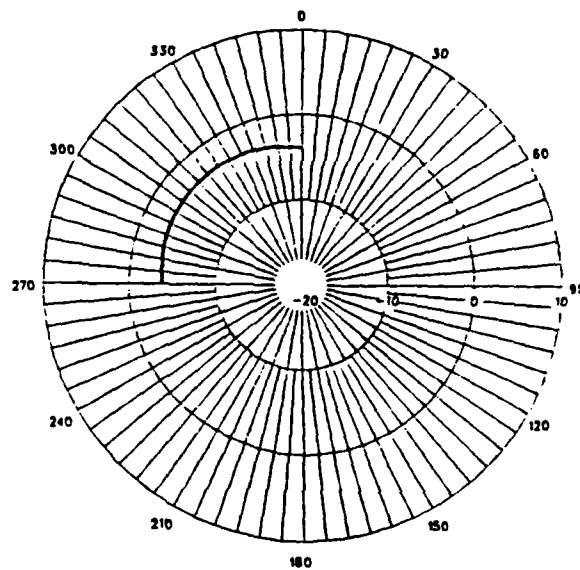


Figure 73. Azimuth patterns of the Army Highband DD antenna over perfect ground at 8 MHz

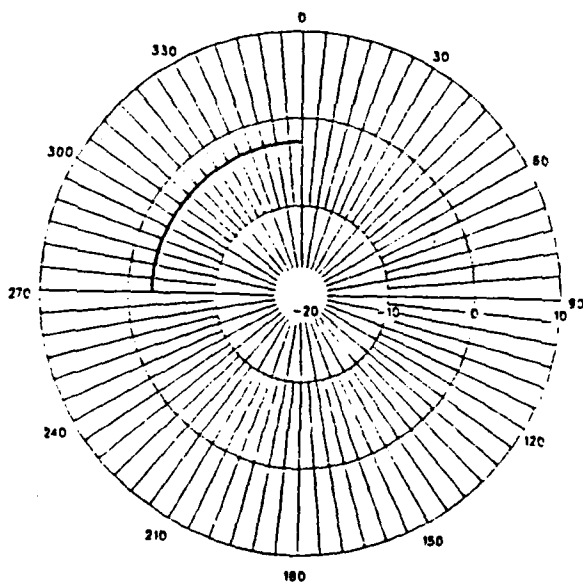
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

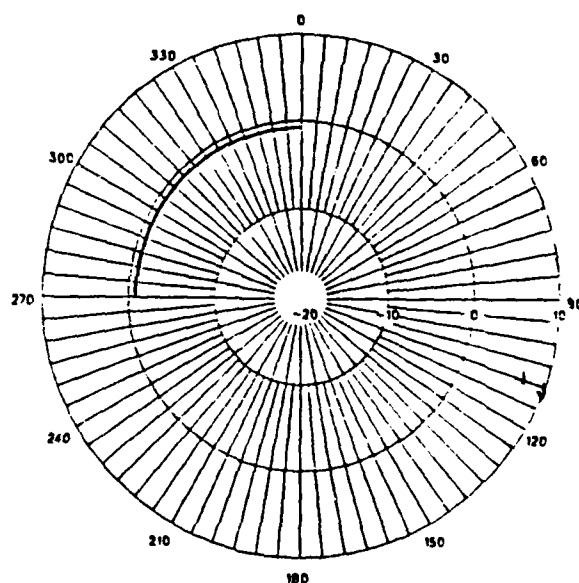
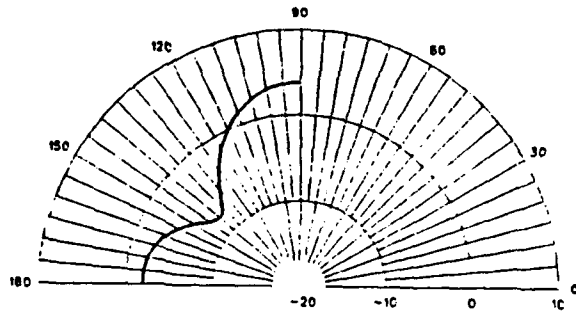
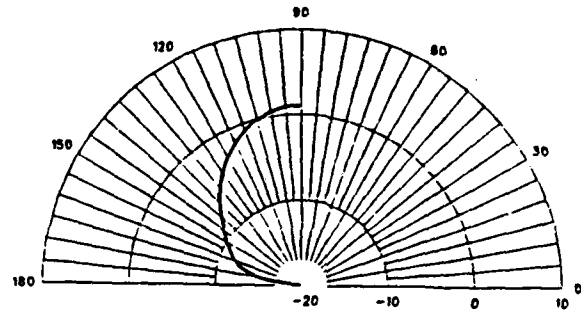


Figure 74. Azimuth patterns of the Army Highband DD antenna over fair ground at 8 MHz

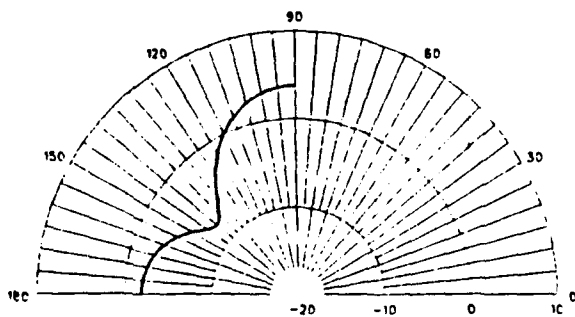
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 9 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 9 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 9 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 9 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

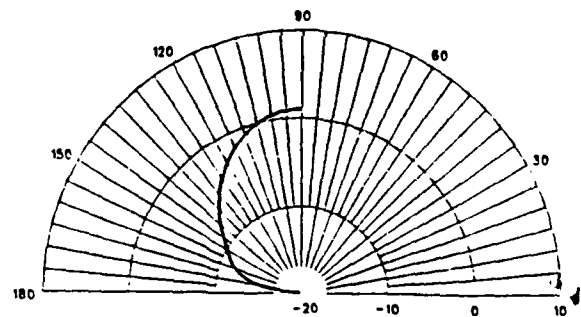
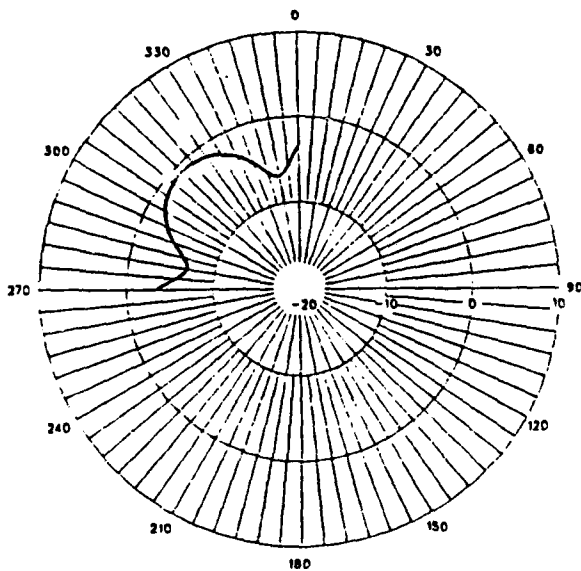
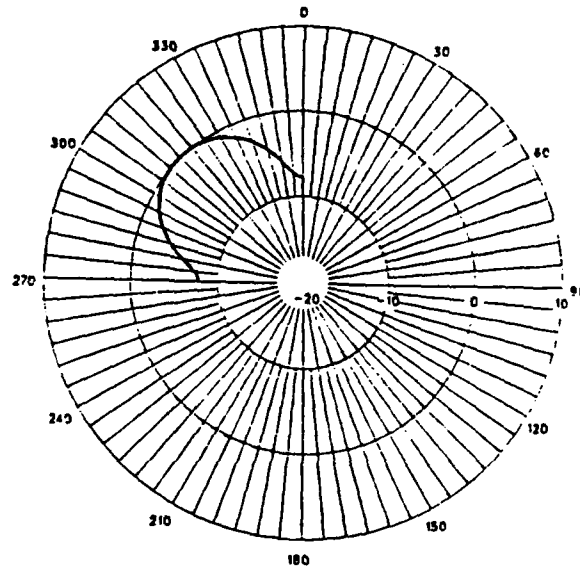


Figure 75. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 9 MHz

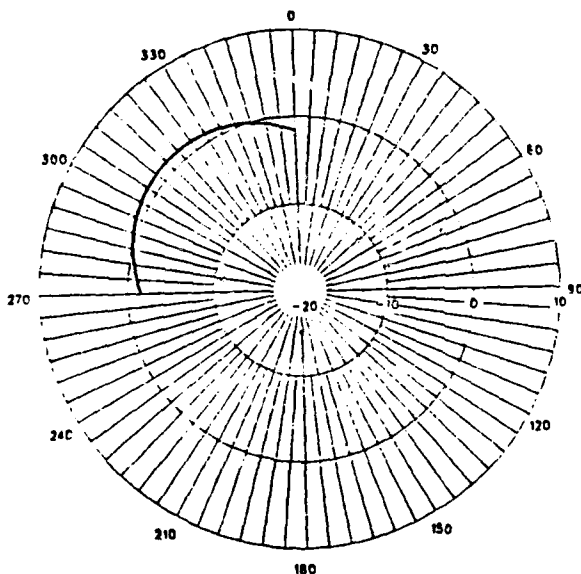
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

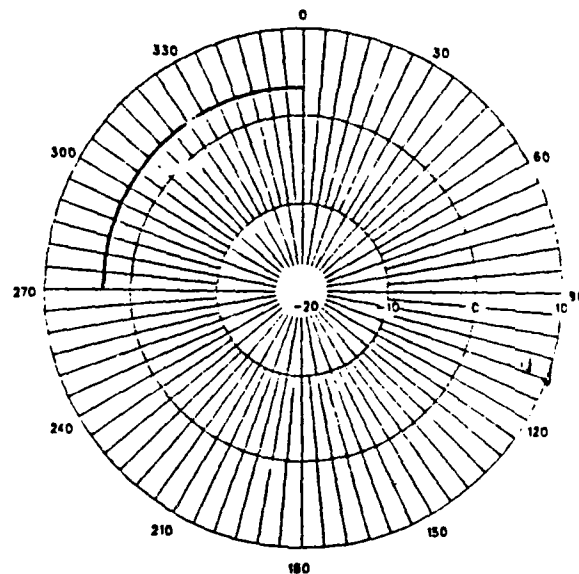
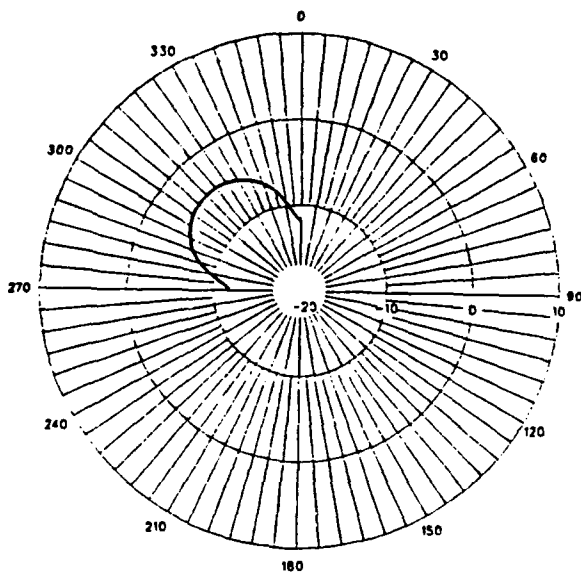
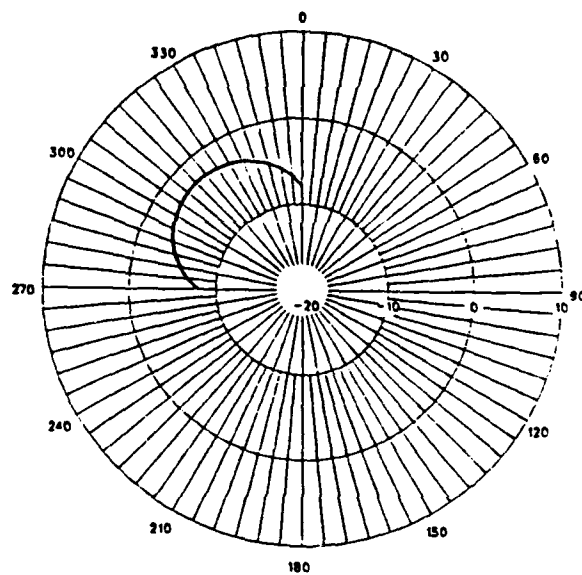


Figure 76. Azimuth patterns of the Army Highband DD antenna over perfect ground at 9 MHz

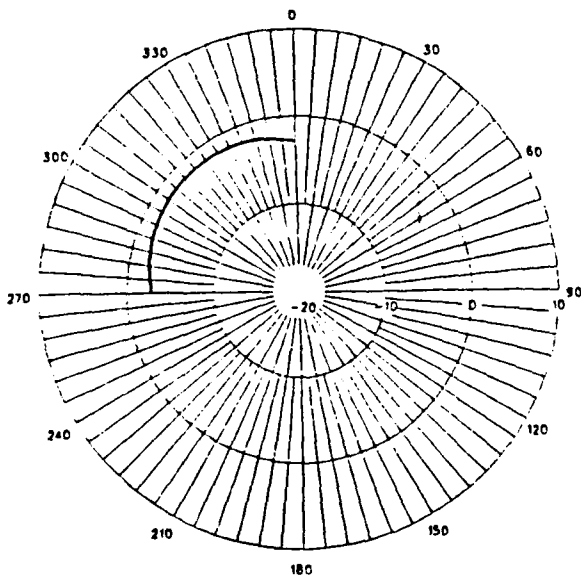
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

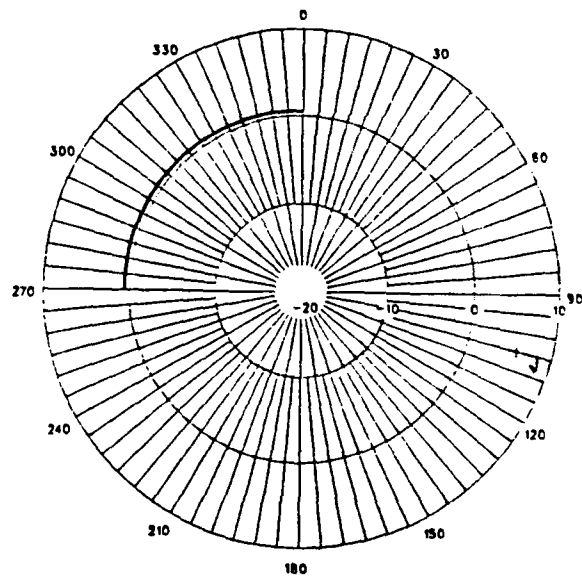


Figure 77. Azimuth patterns of the Army Highband DD antenna over fair ground at 9 MHz

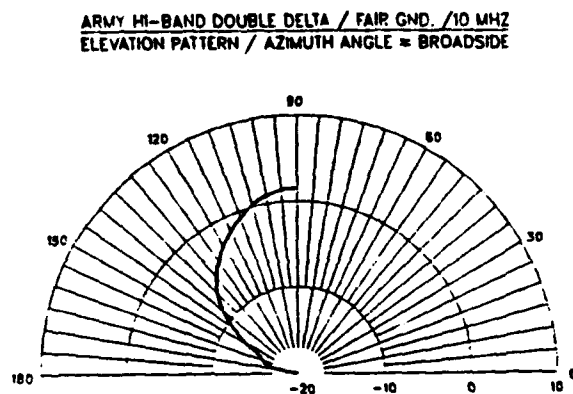
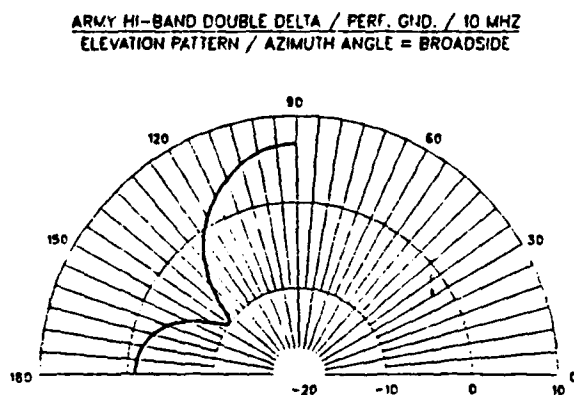
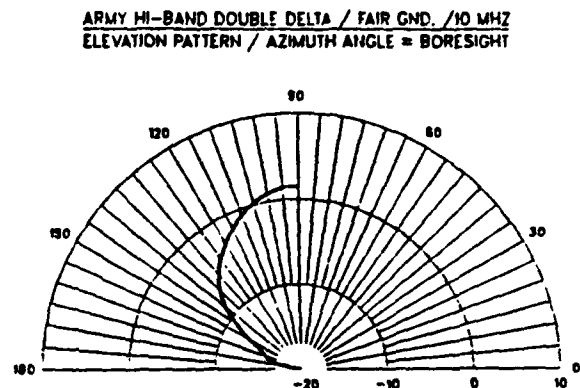
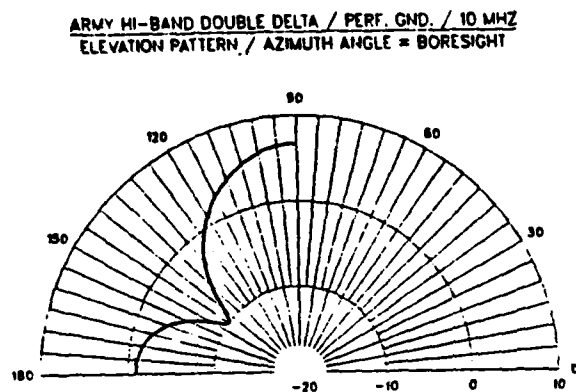
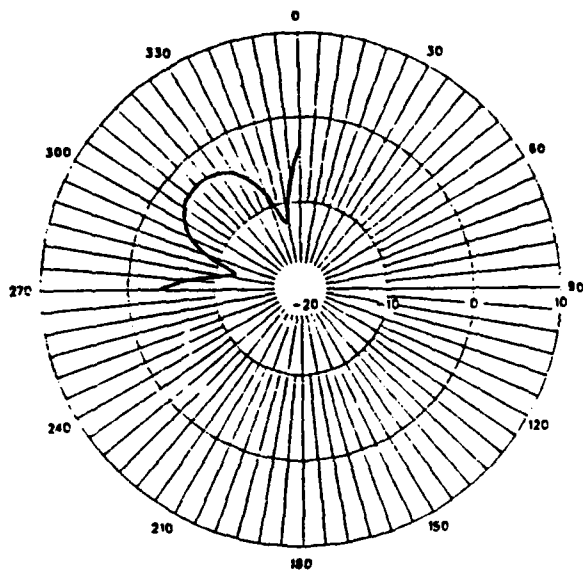
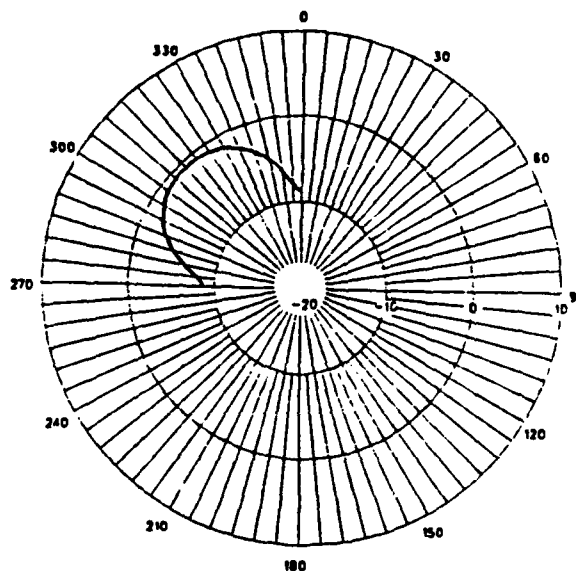


Figure 78. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 10 MHz

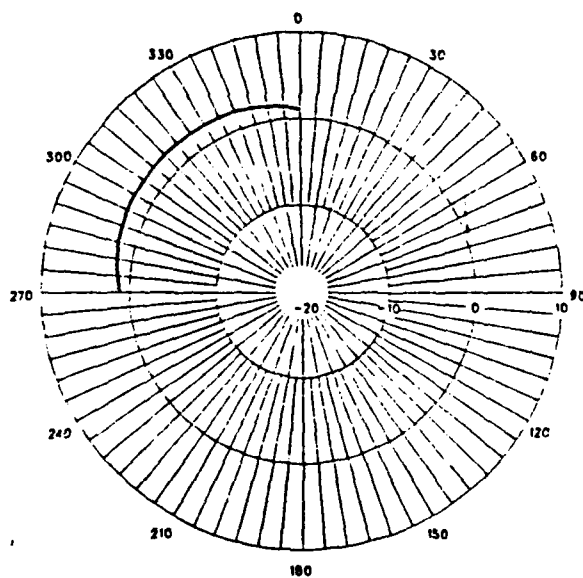
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

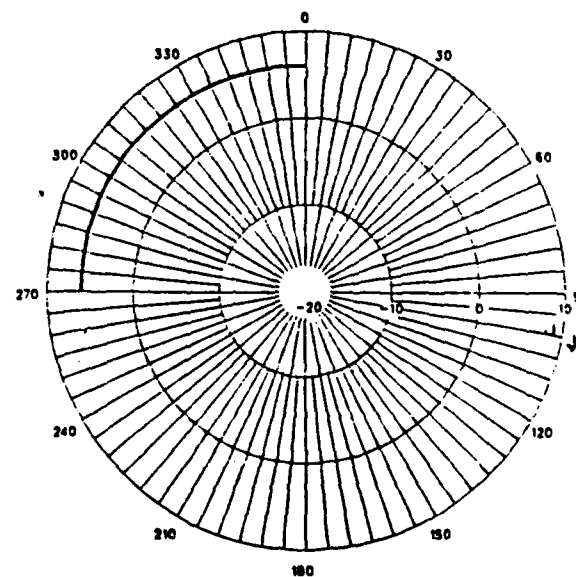
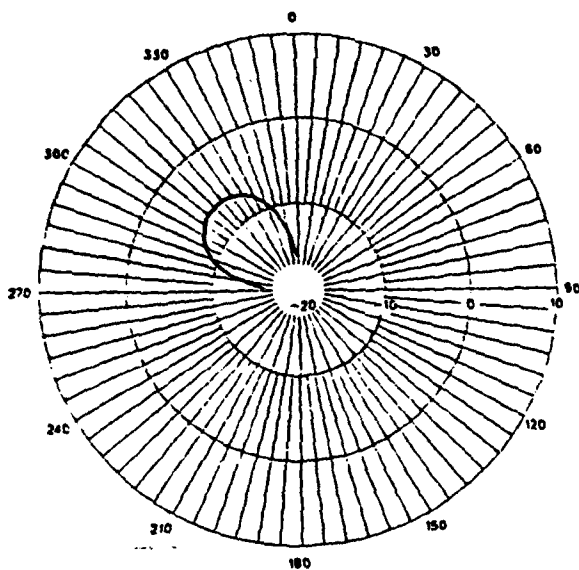
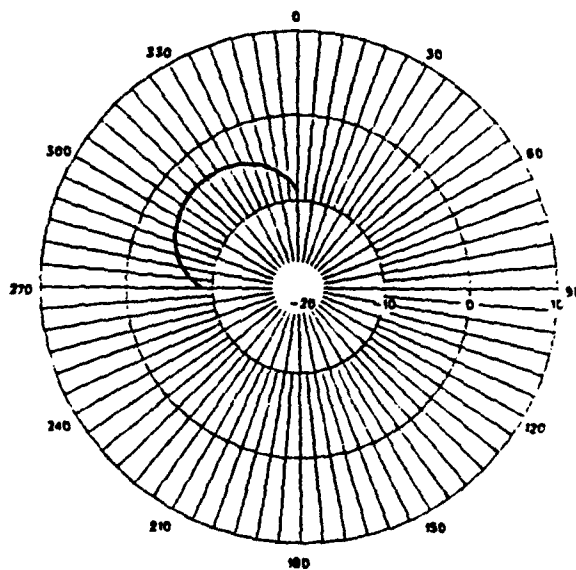


Figure 79. Azimuth patterns of the Army Highband DD antenna over perfect ground at 10 MHz

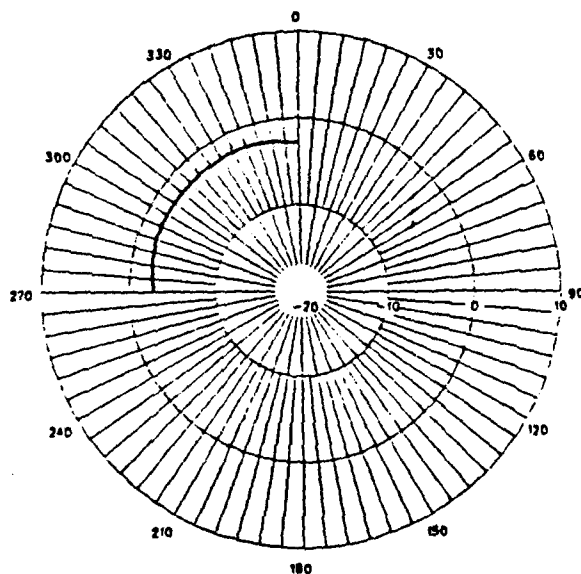
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

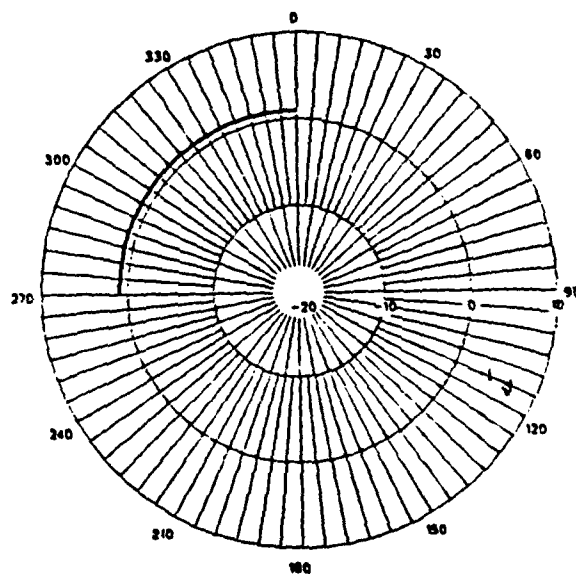
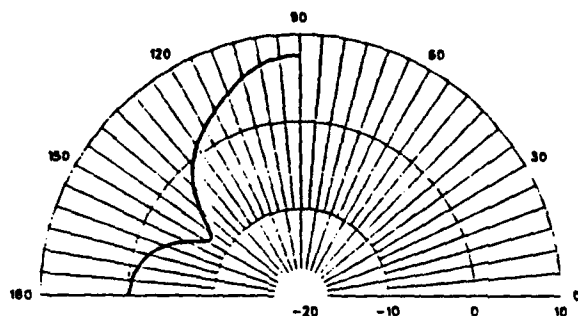
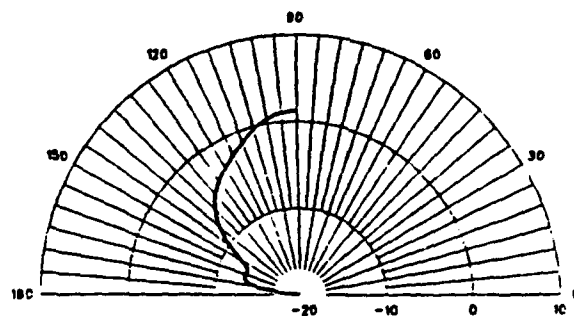


Figure 80. Azimuth patterns of the Army Highband DD antenna over fair ground at 10 MHz

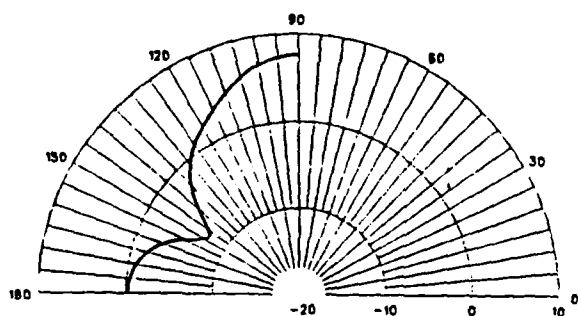
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 11 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 11 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 11 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 11 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

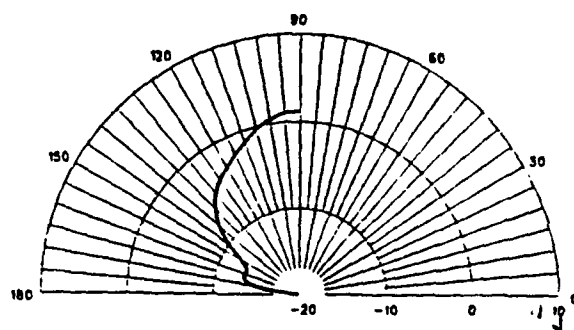
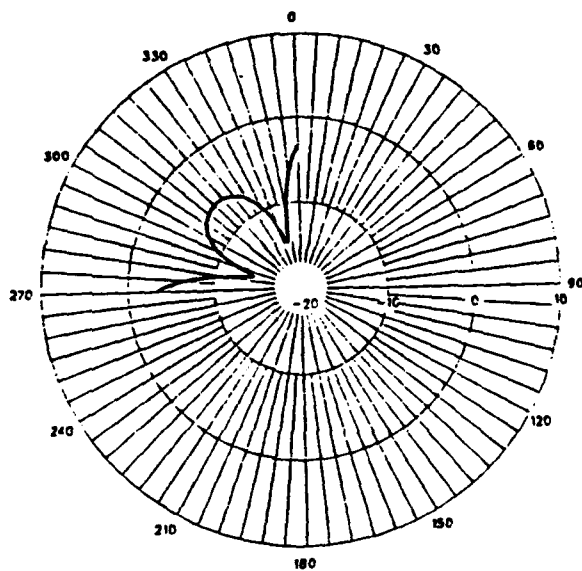
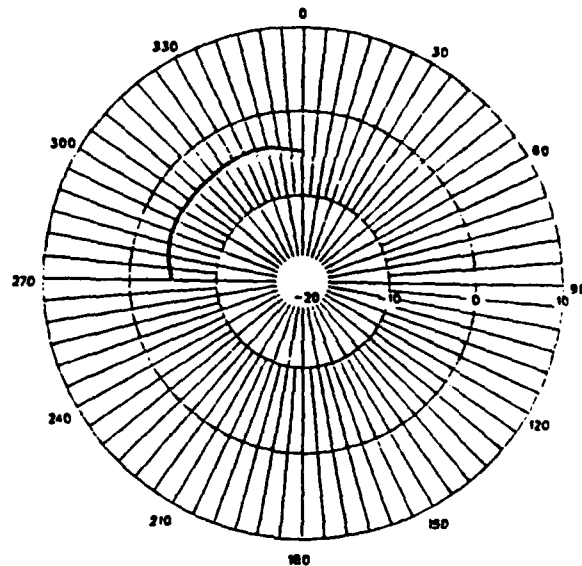


Figure 81. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 11 MHz

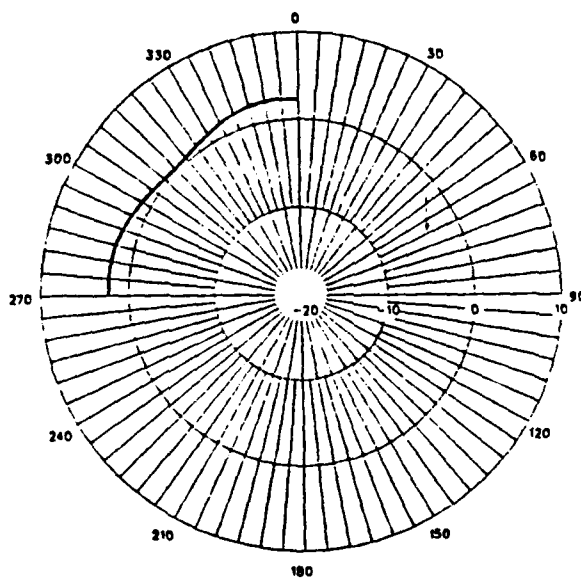
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

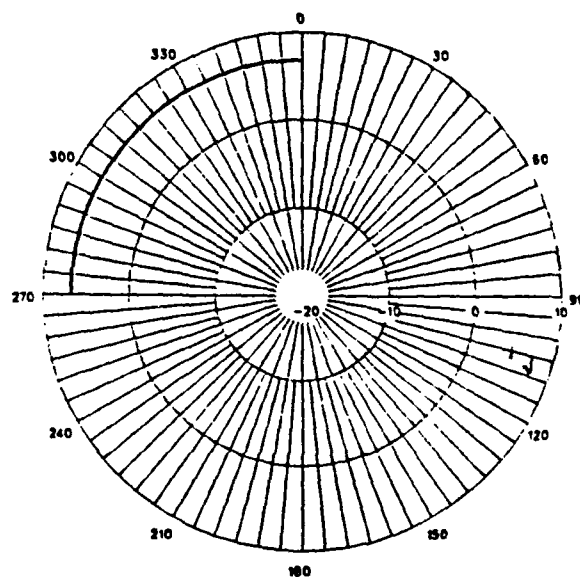
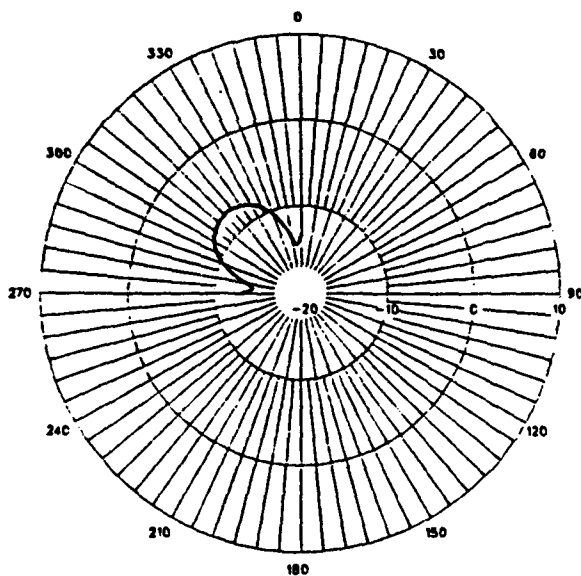
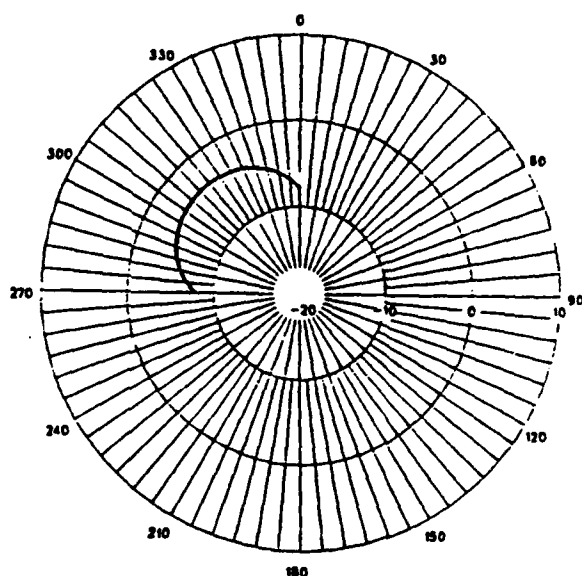


Figure 82. Azimuth patterns of the Army Highband DD antenna over perfect ground at 11 MHz

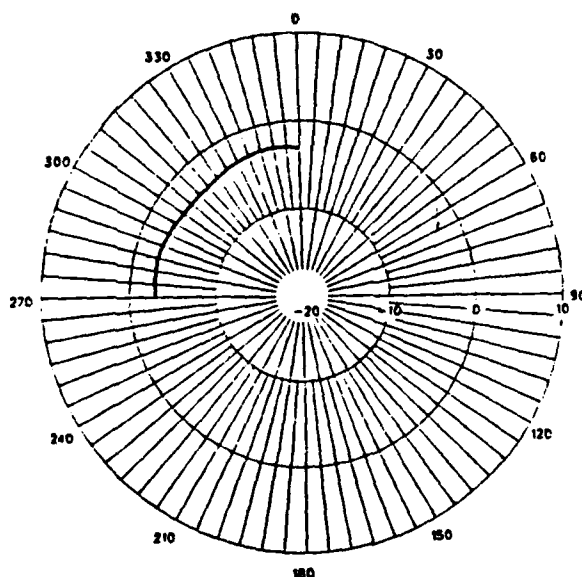
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

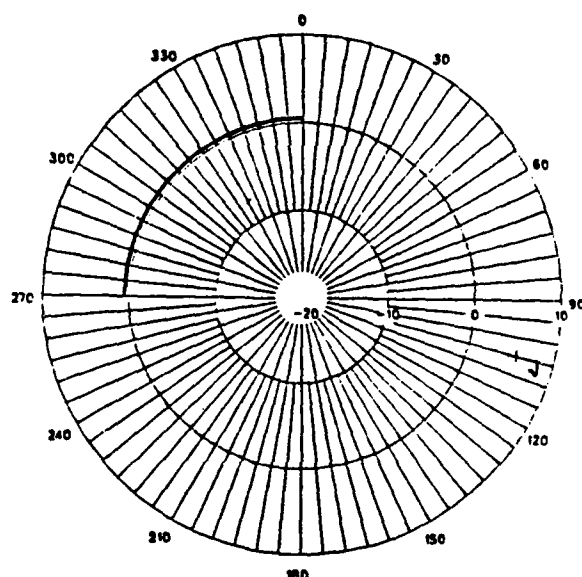


Figure 83. Azimuth patterns of the Army Highband DD antenna over fair ground at 11 MHz

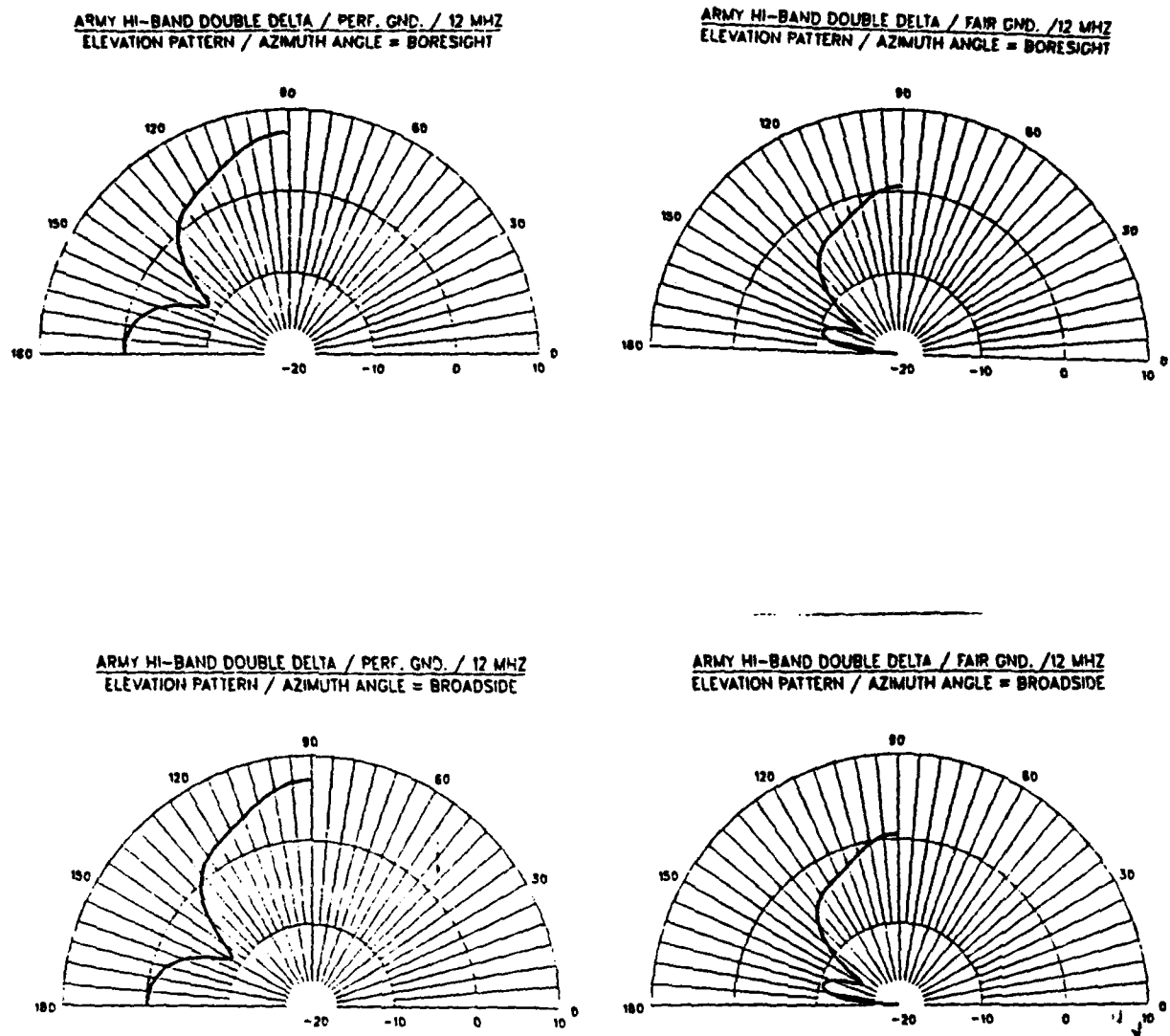
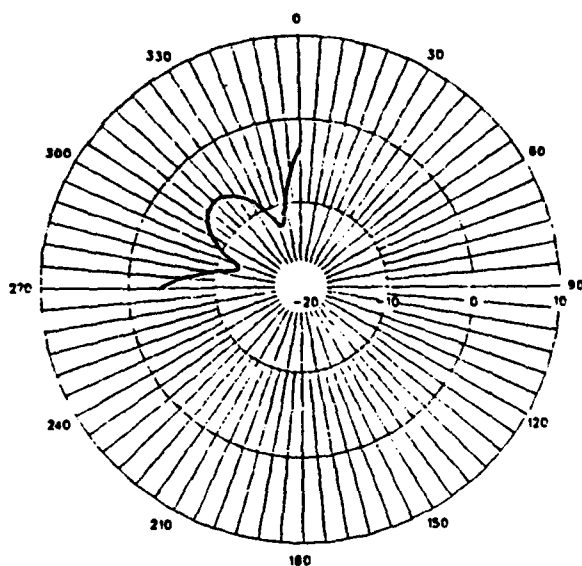
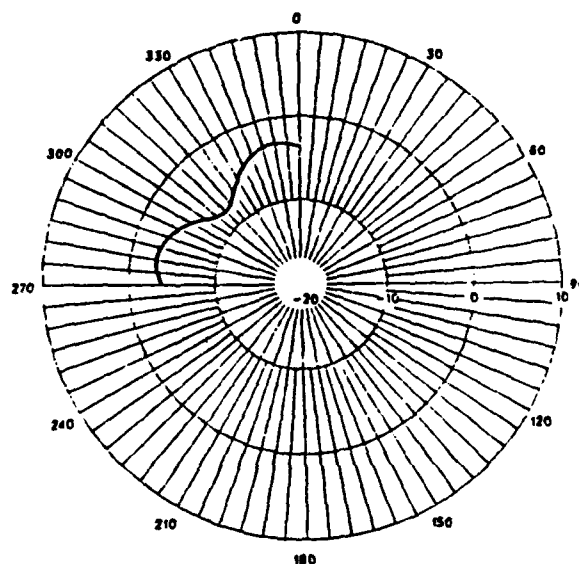


Figure 84. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 12 MHz

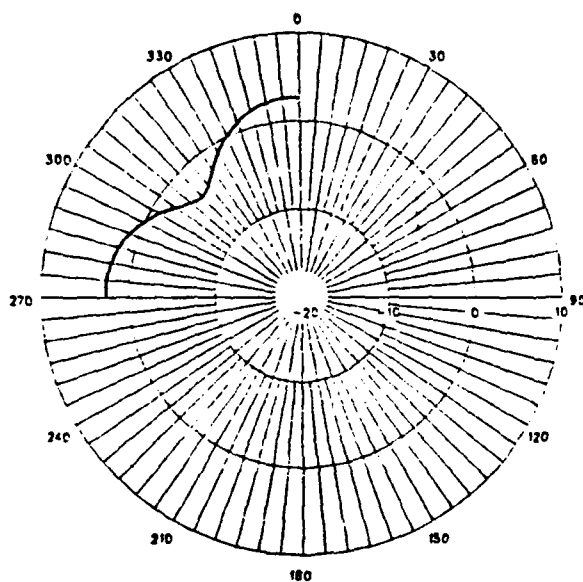
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

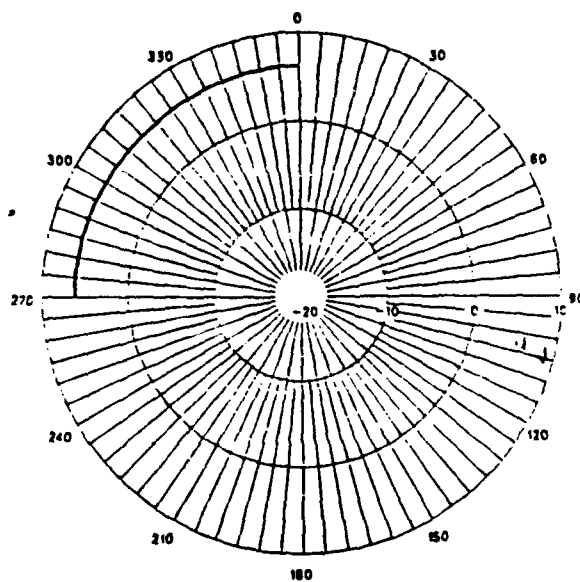
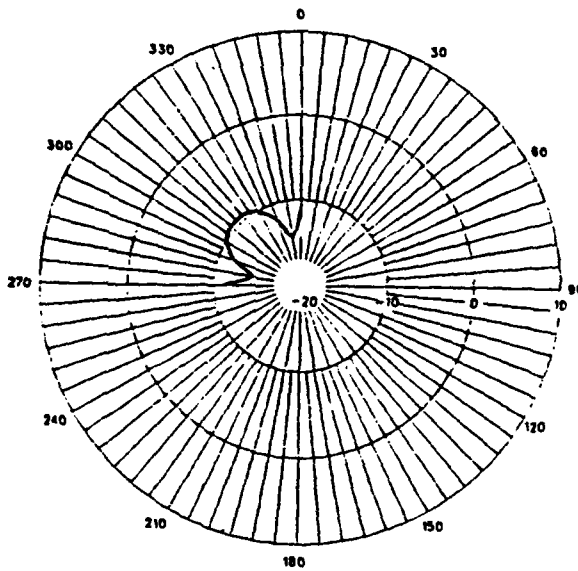
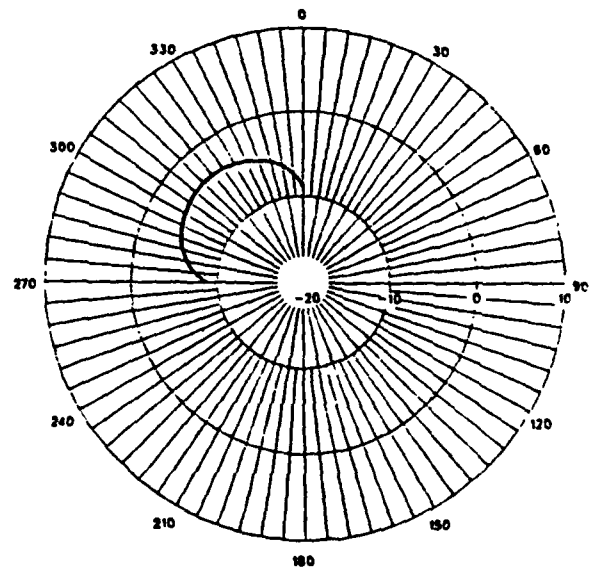


Figure 85. Azimuth patterns of the Army Highband DD antenna over perfect ground at 12 MHz

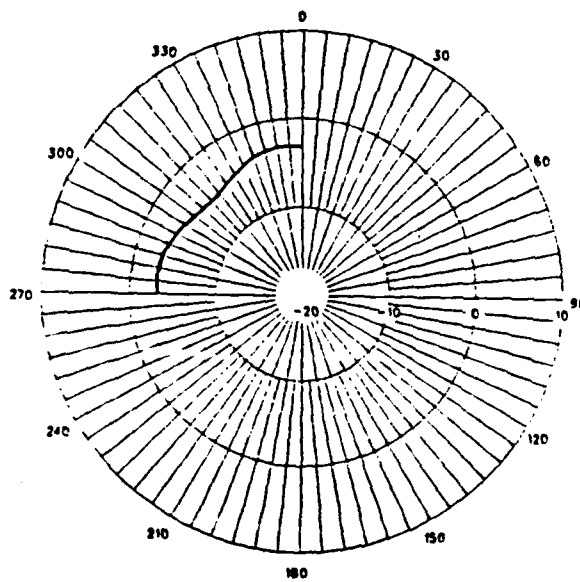
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

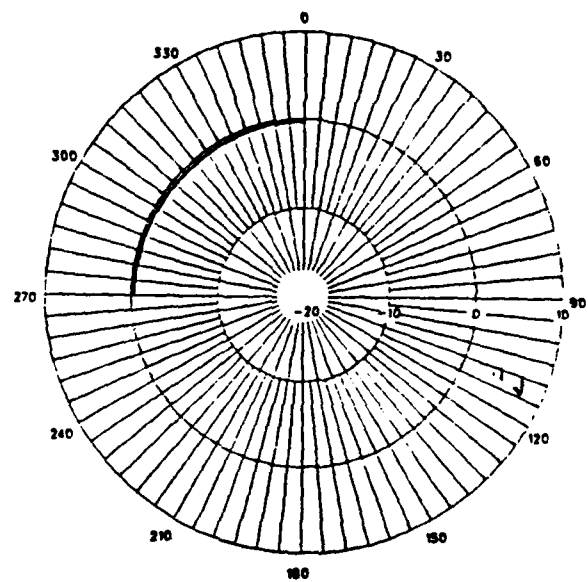


Figure 86. Azimuth patterns of the Army Highband DD antenna over fair ground at 12 MHz

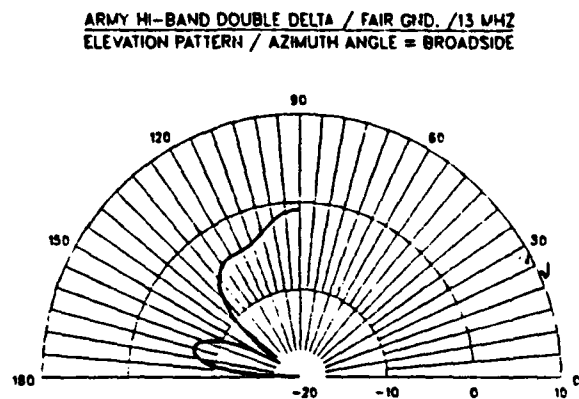
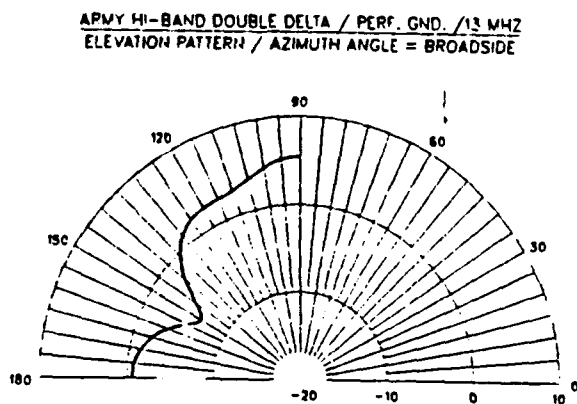
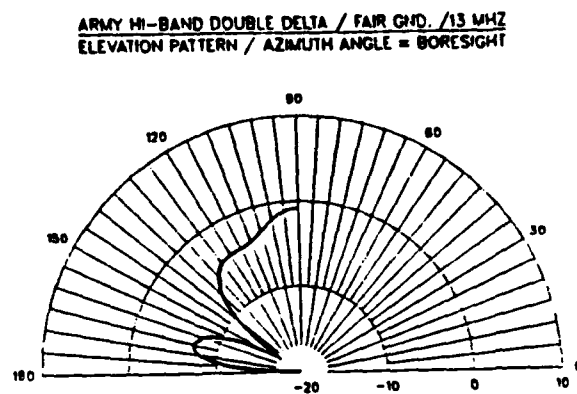
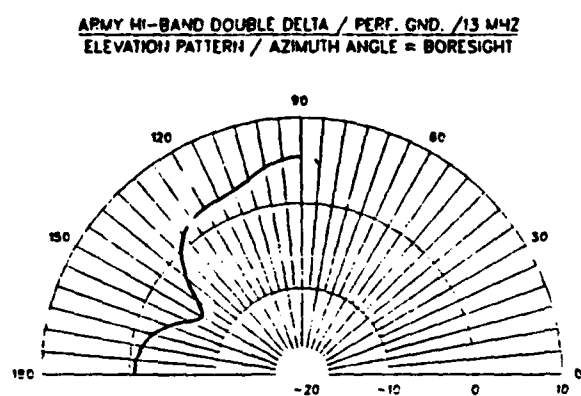
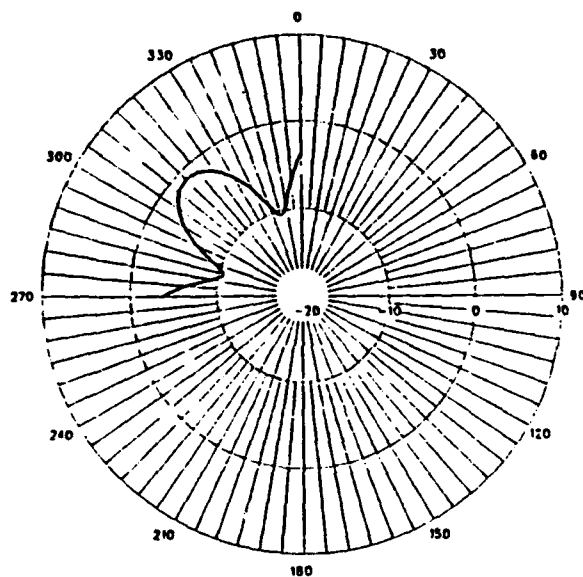
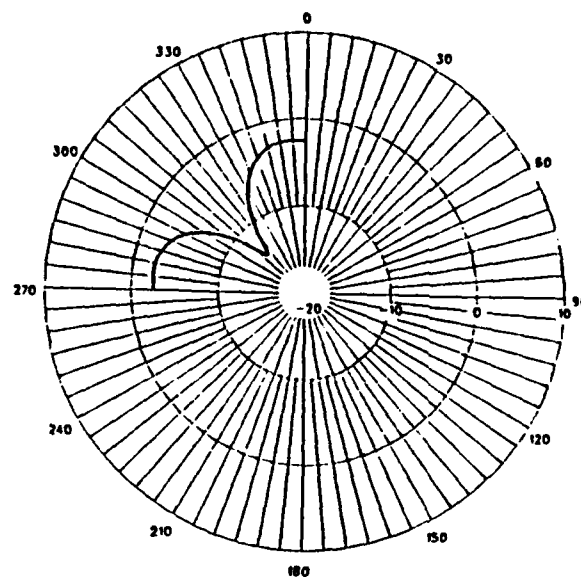


Figure 87. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 13 MHz

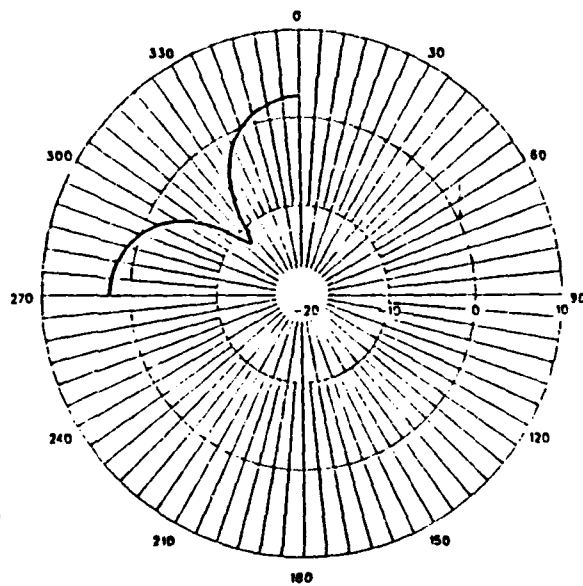
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

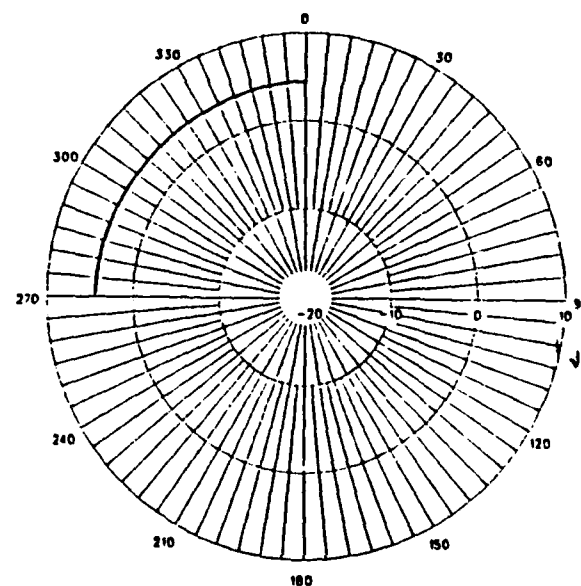
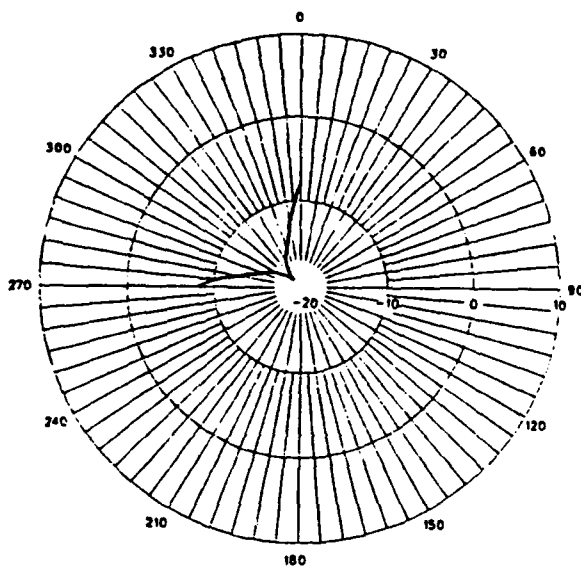
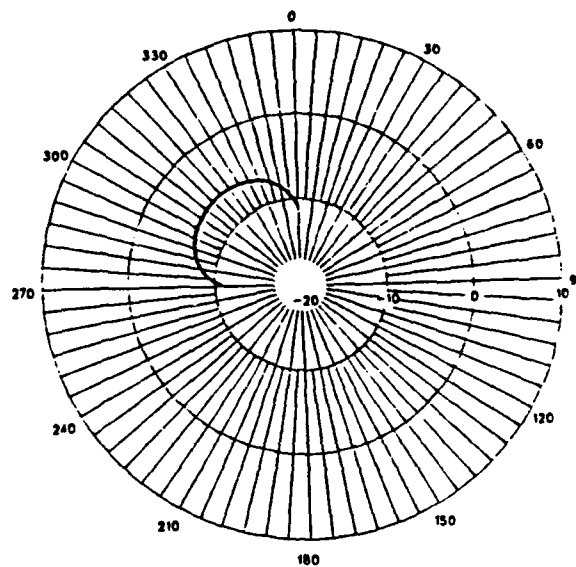


Figure 88. Azimuth patterns of the Army Highband DD antenna over perfect ground at 13 MHz

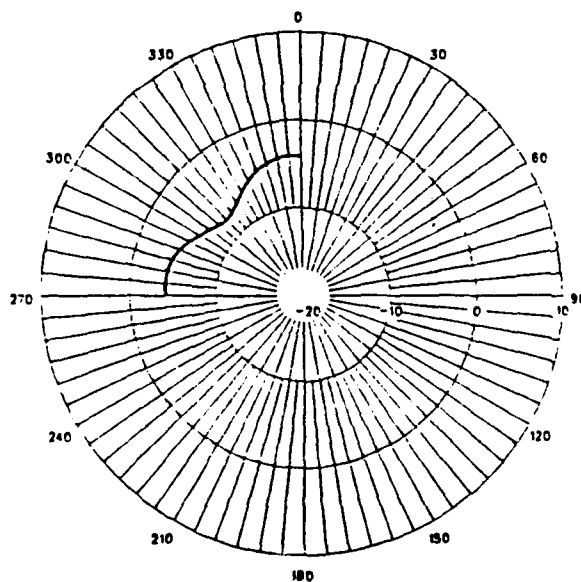
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

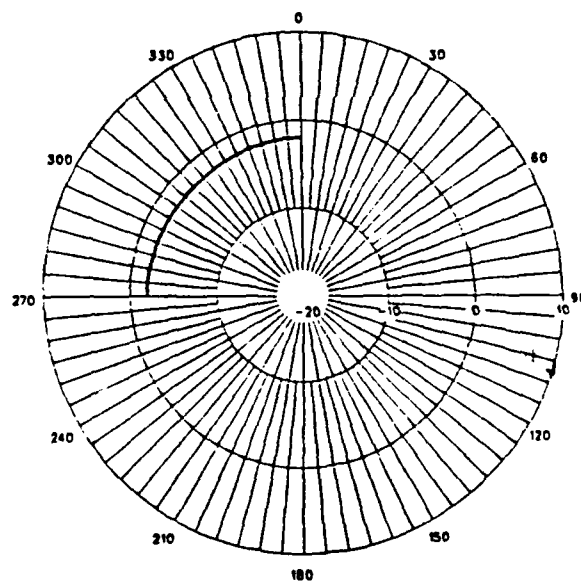


Figure 89. Azimuth patterns of the Army Highband DD antenna over fair ground at 13 MHz

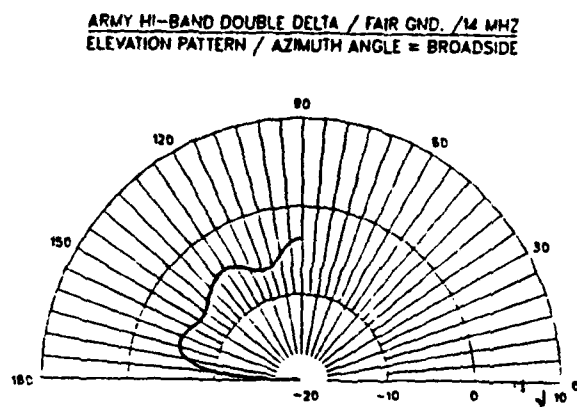
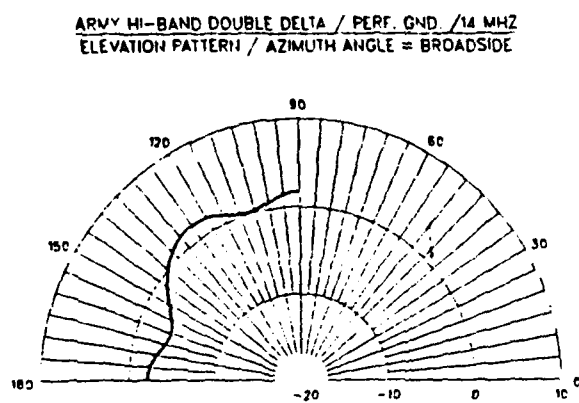
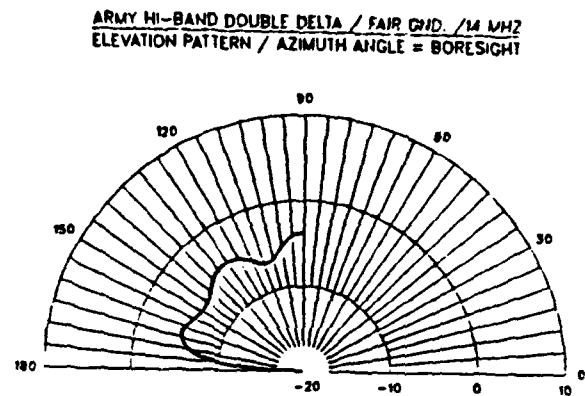
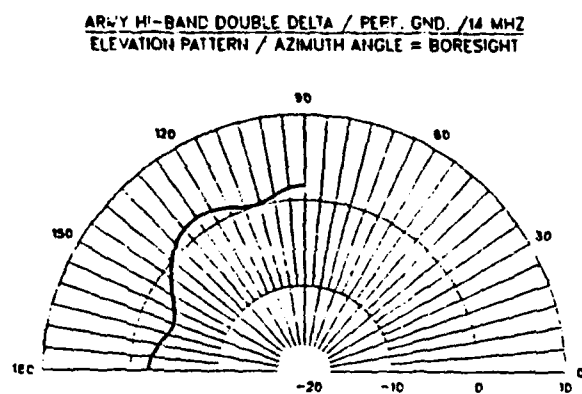
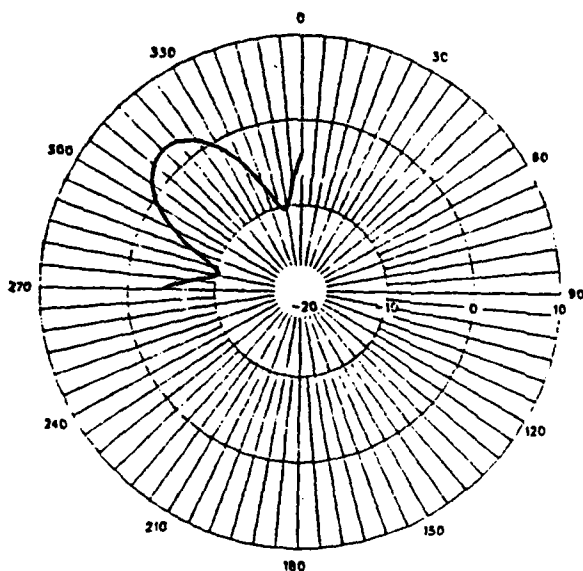
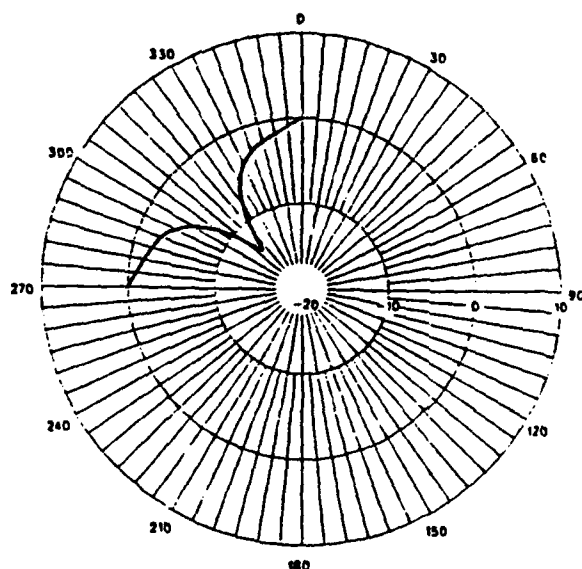


Figure 90. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 14 MHz

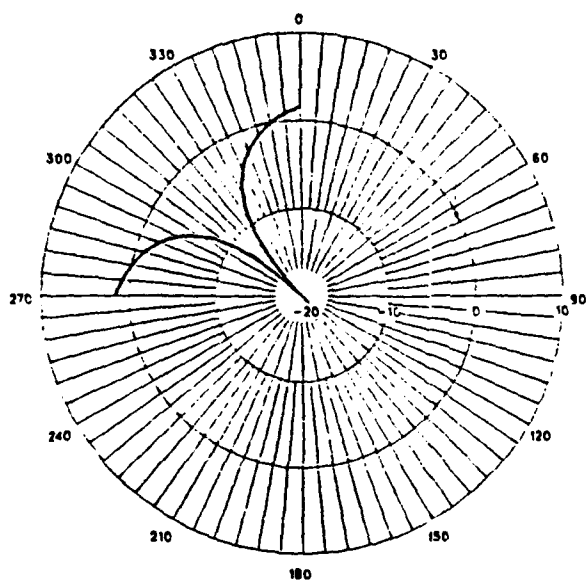
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

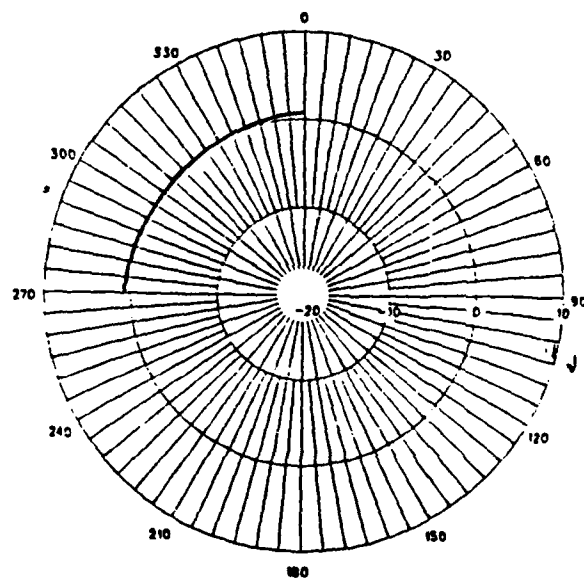
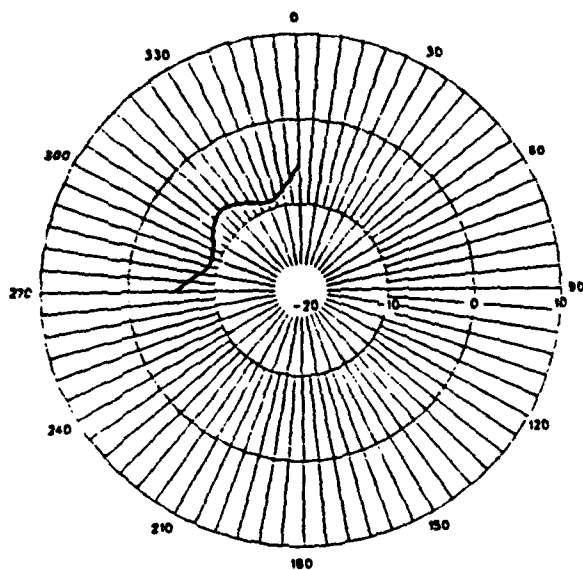
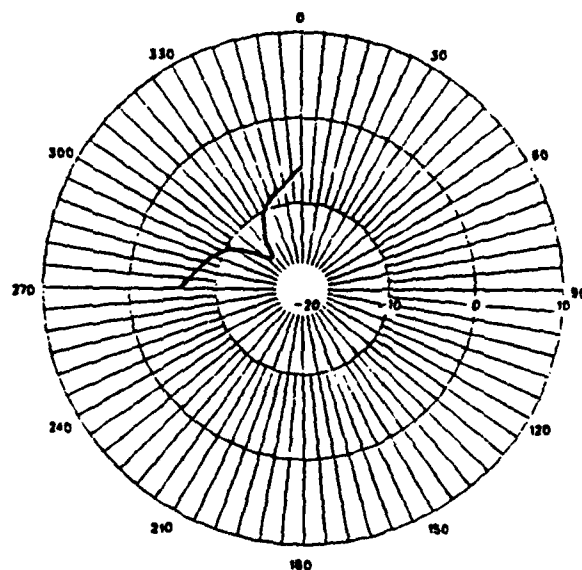


Figure 91. Azimuth patterns of the Army Highband DD antenna over perfect ground at 14 MHz

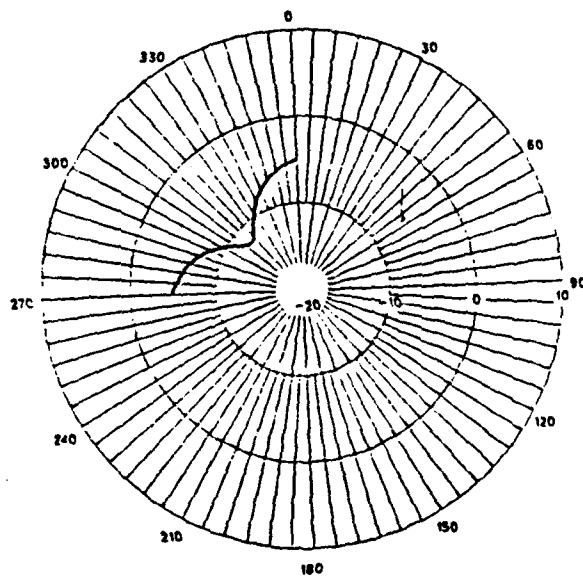
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

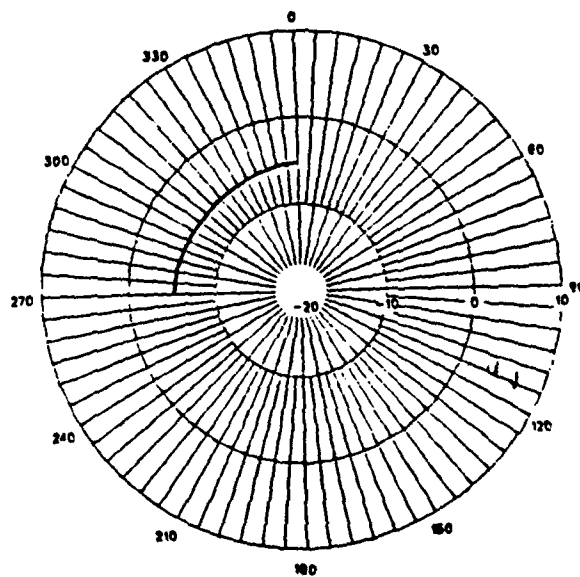
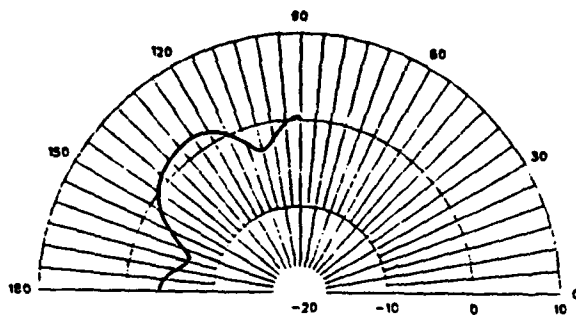
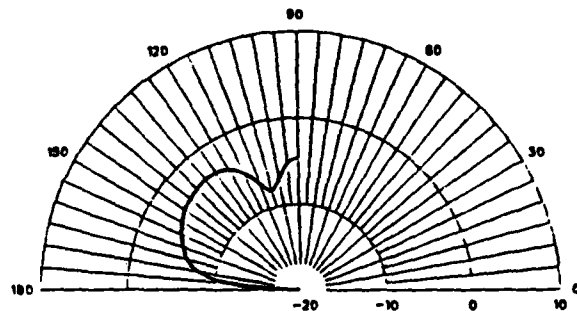


Figure 92. Azimuth patterns of the Army Highband DD antenna over fair ground at 14 MHz

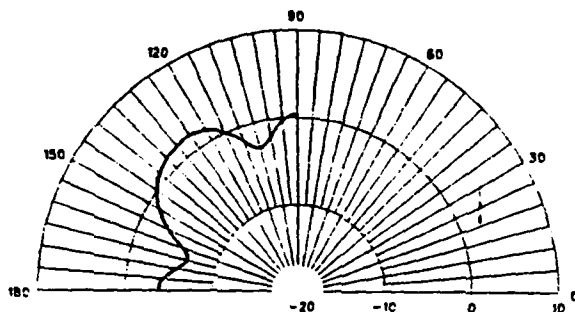
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 15 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 15 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 15 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 15 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

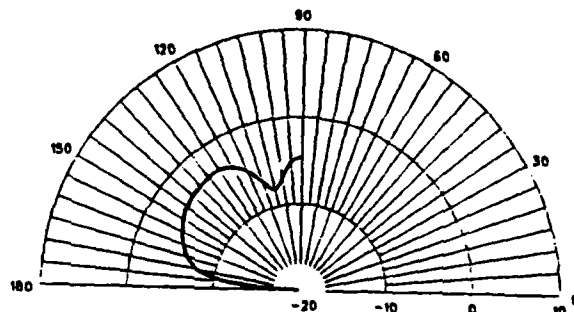
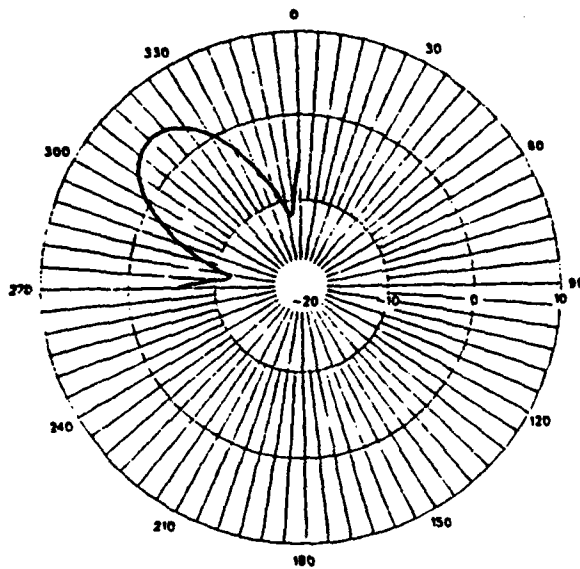
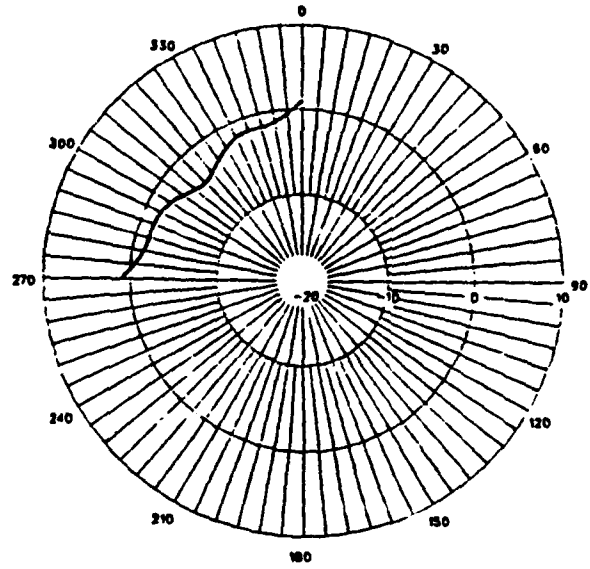


Figure 93. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 15 MHz

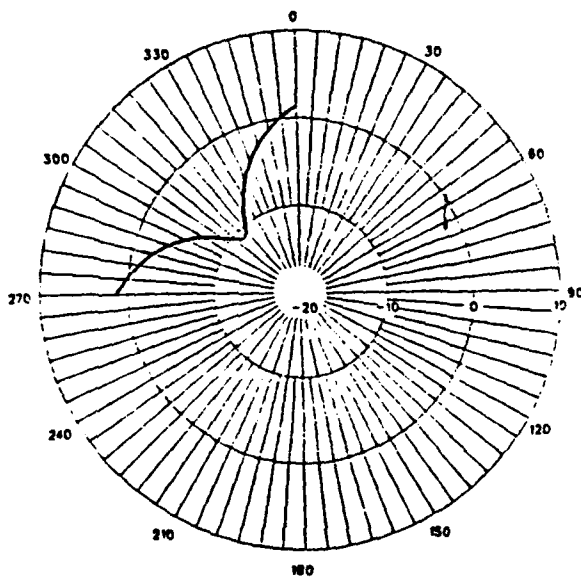
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

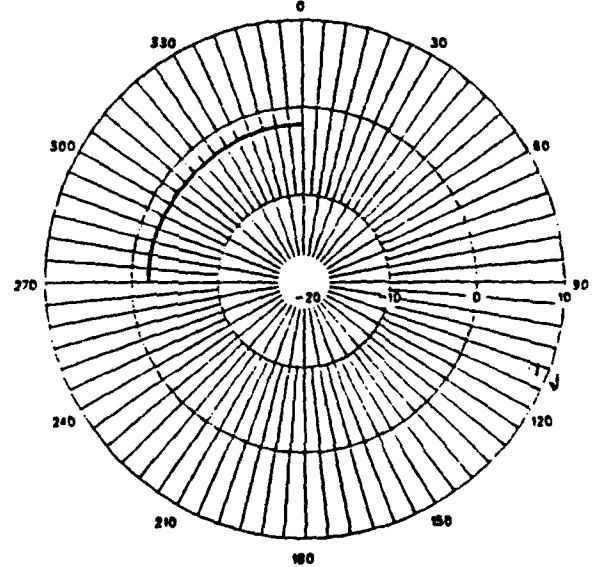
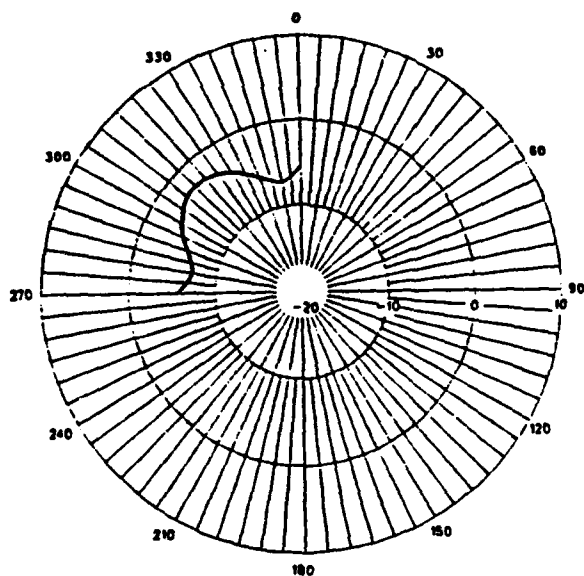
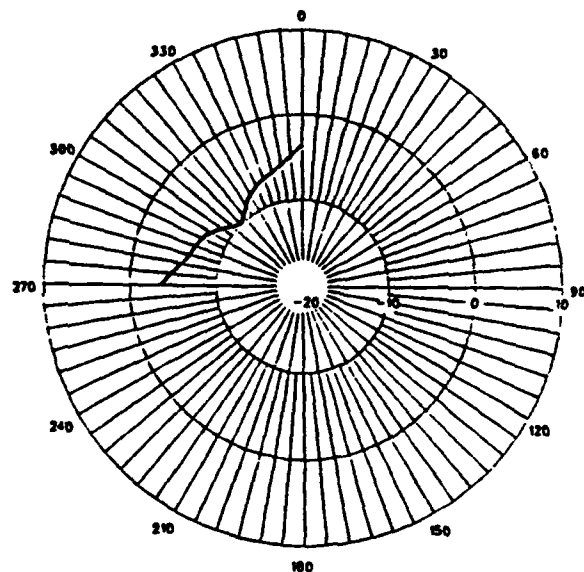


Figure 94. Azimuth patterns of the Army Highband DD antenna over perfect ground at 15 MHz

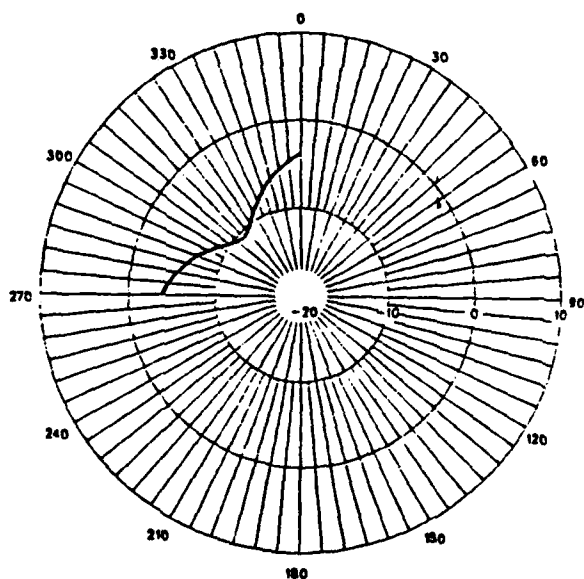
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

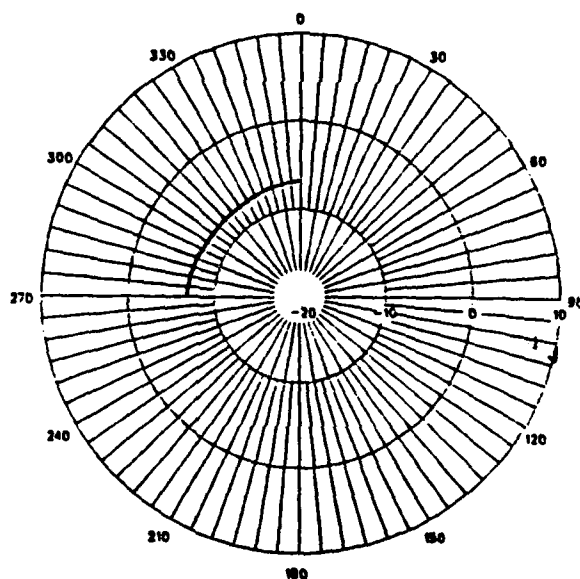
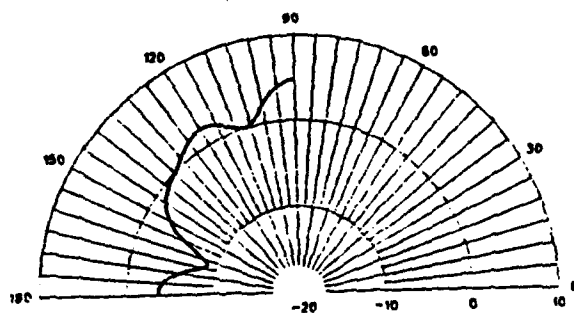
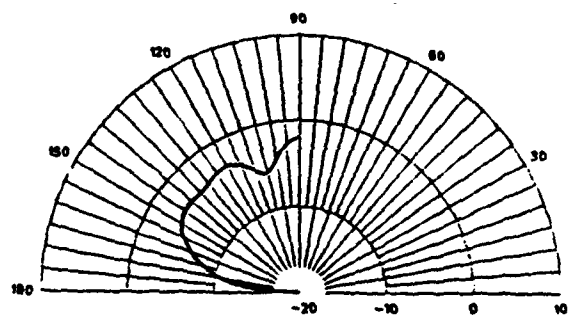


Figure 95. Azimuth patterns of the Army Highband DD antenna over fair ground at 15 MHz

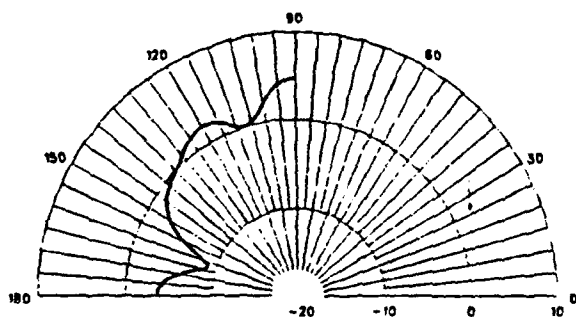
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 16 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 16 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 16 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 16 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

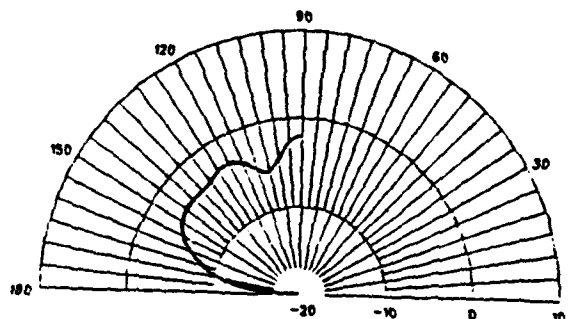
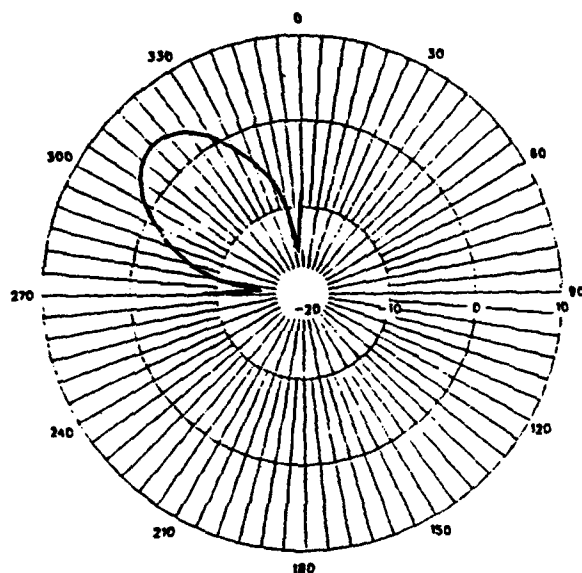
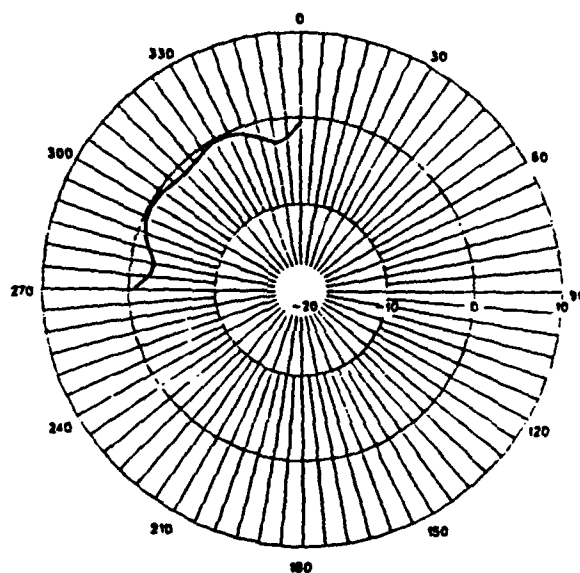


Figure 96. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 16 MHz

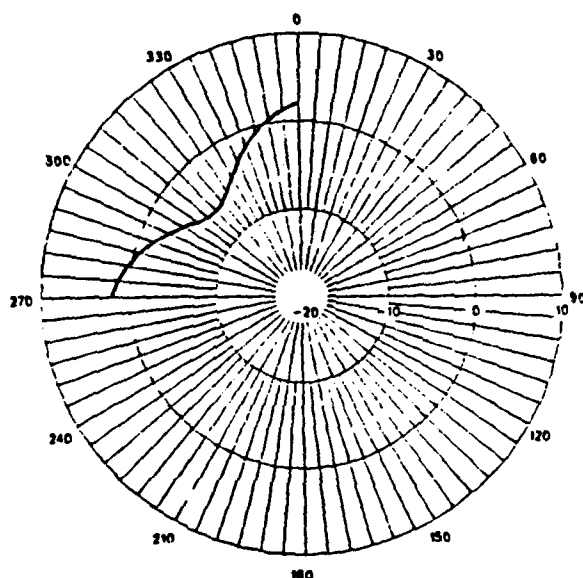
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

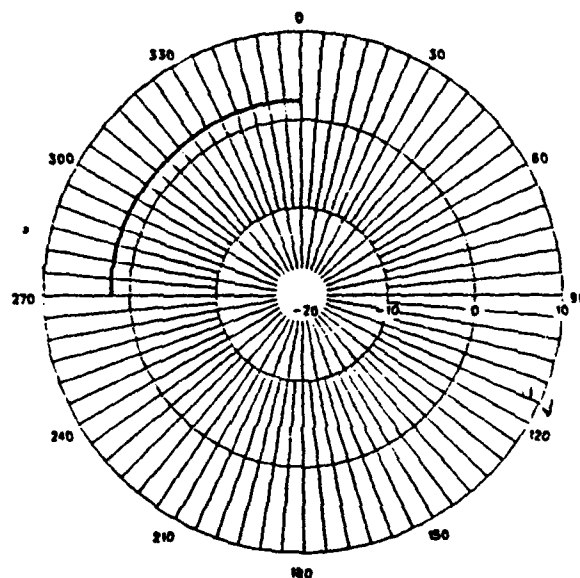
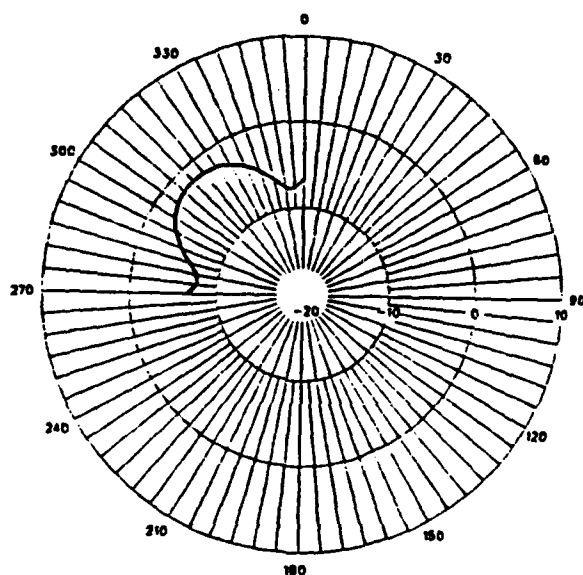
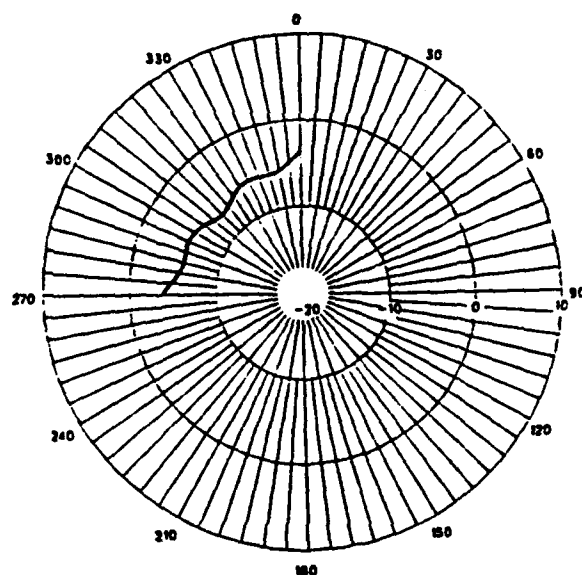


Figure 97. Azimuth patterns of the Army Highband DD antenna over perfect ground at 16 MHz

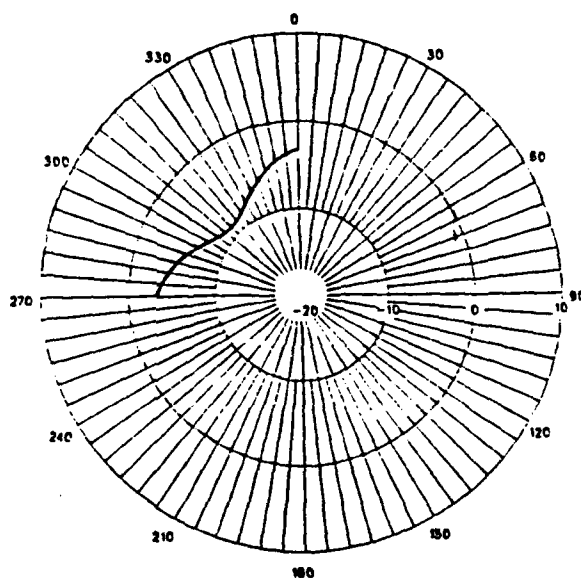
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

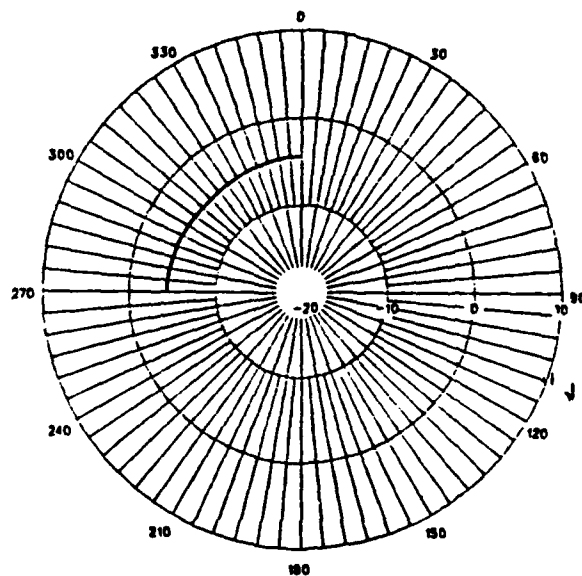
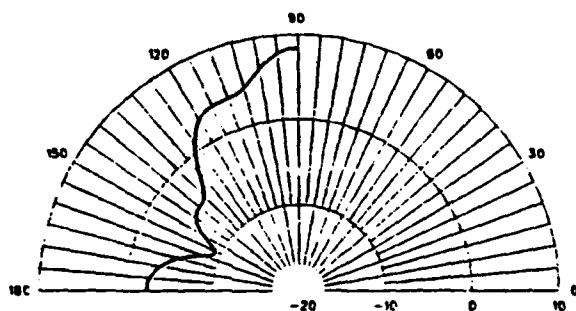
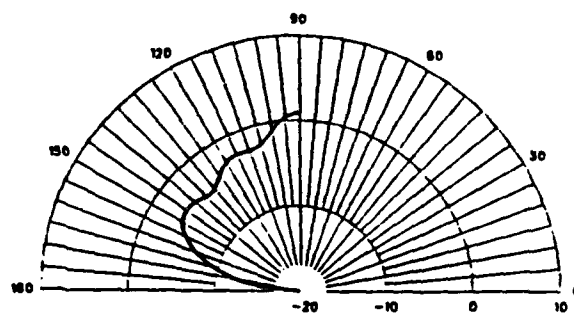


Figure 98. Azimuth patterns of the Army Highband DD antenna over fair ground at 16 MHz

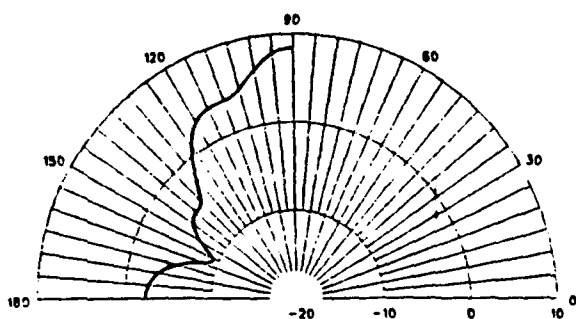
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 17 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 17 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 17 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 17 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

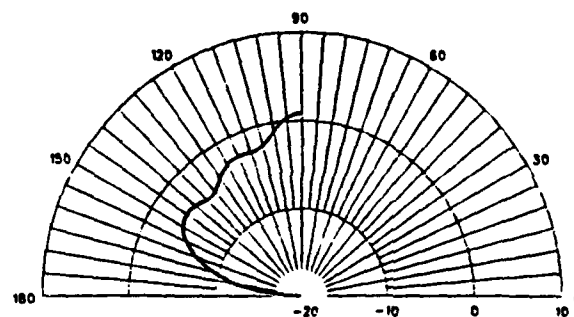
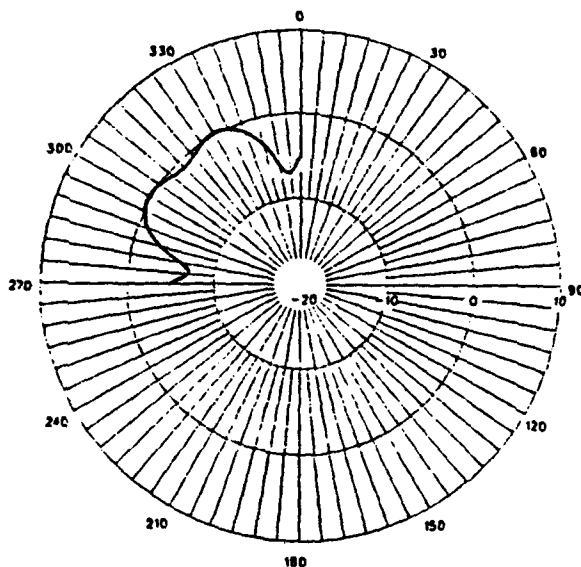
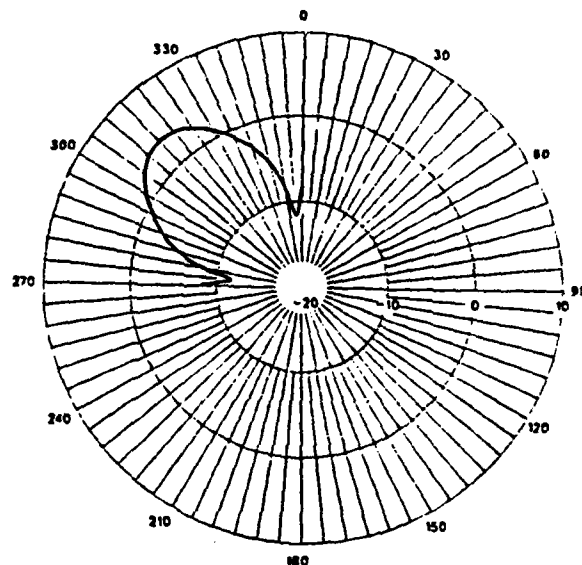


Figure 99. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 17 MHz

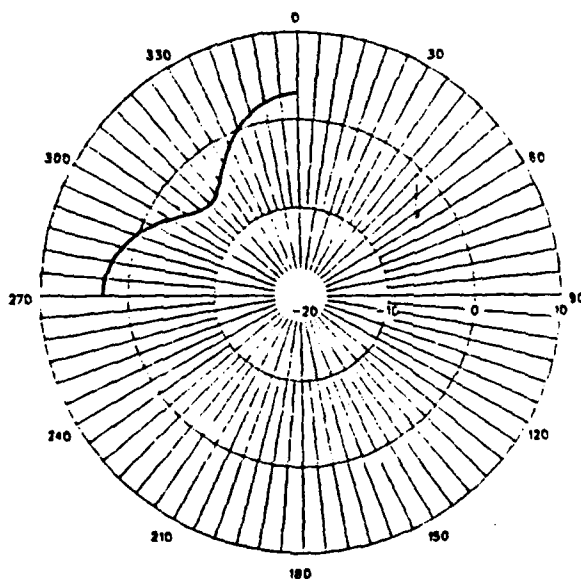
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

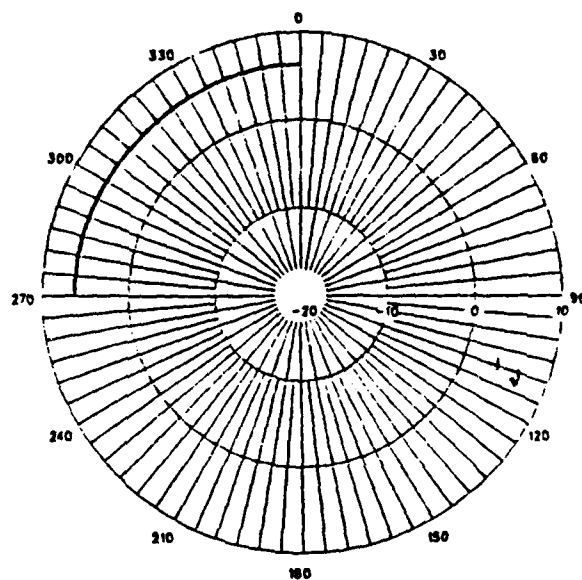
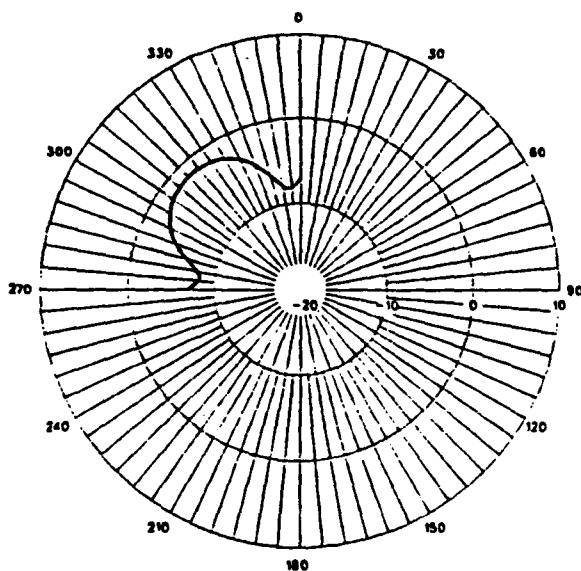
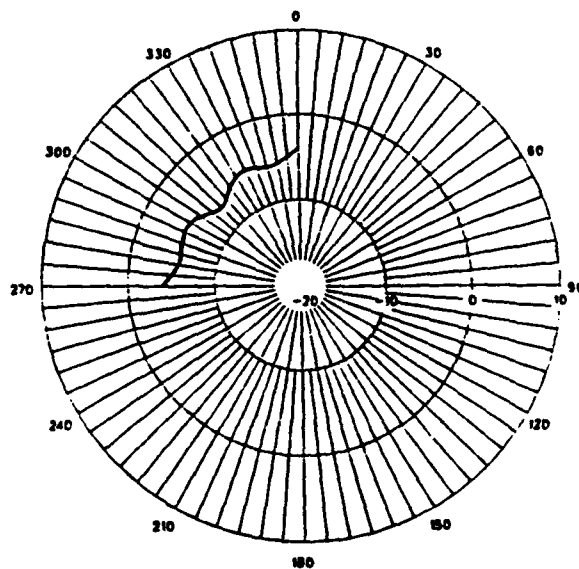


Figure 100. Azimuth patterns of the Army Highband DD antenna over perfect ground at 17 MHz

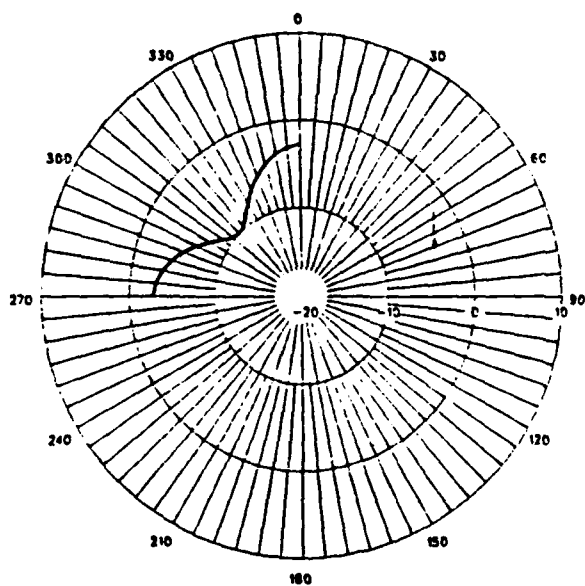
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

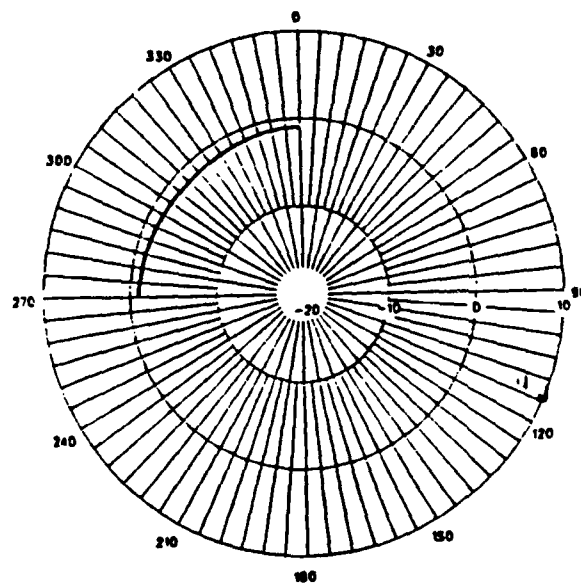
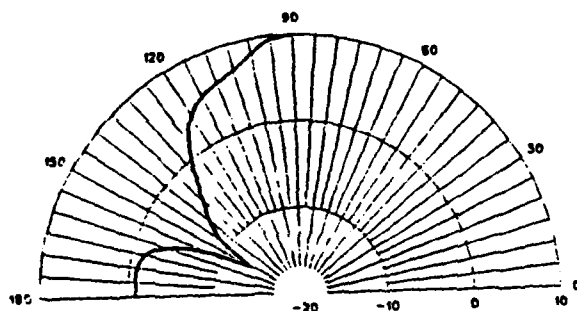
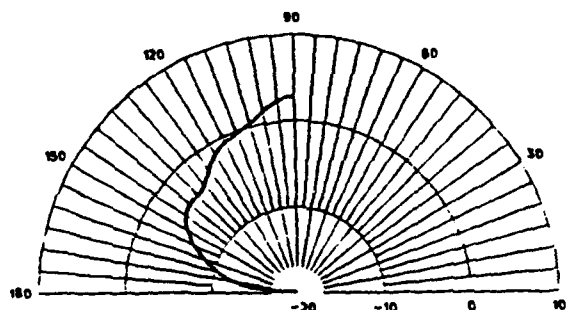


Figure 101. Azimuth patterns of the Army Highband DD antenna over fair ground at 17 MHz

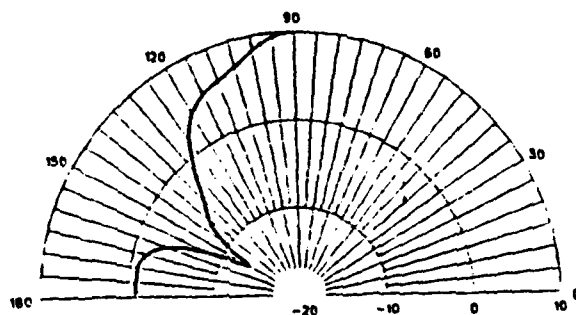
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 18 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 18 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 18 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 18 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

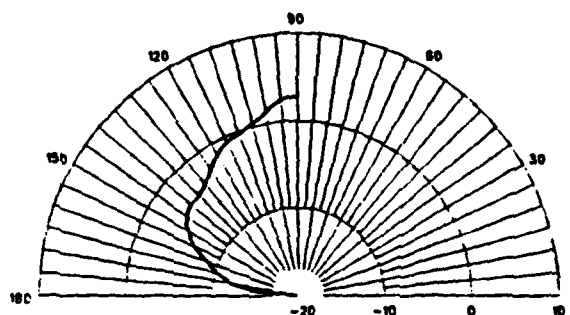
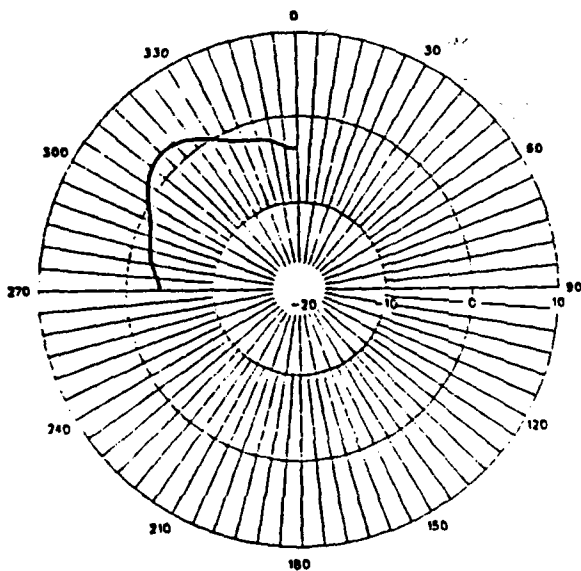
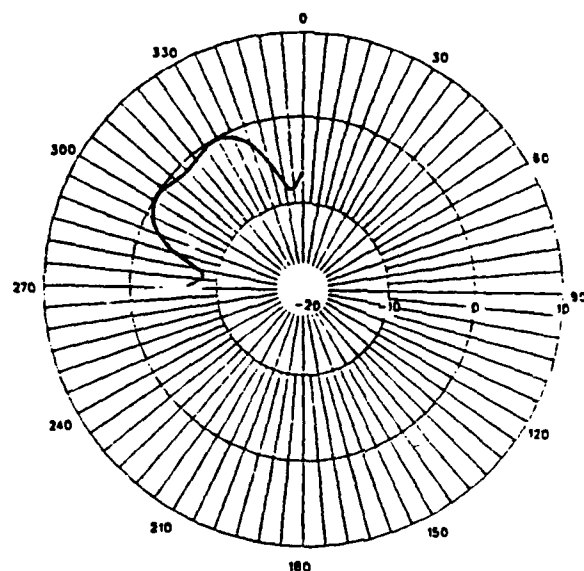


Figure 102. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 18 MHz

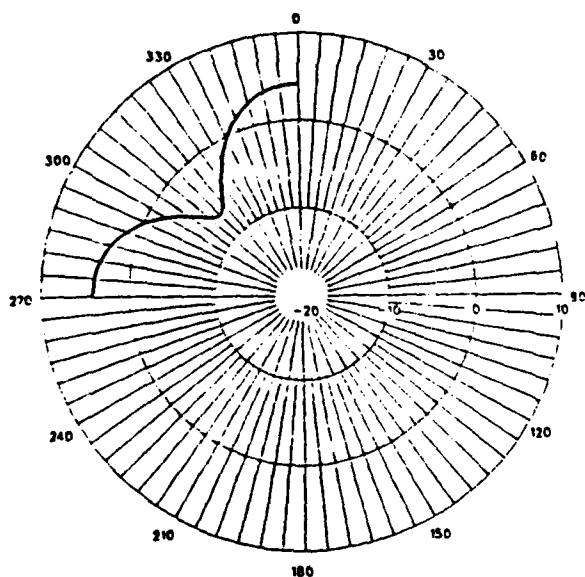
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

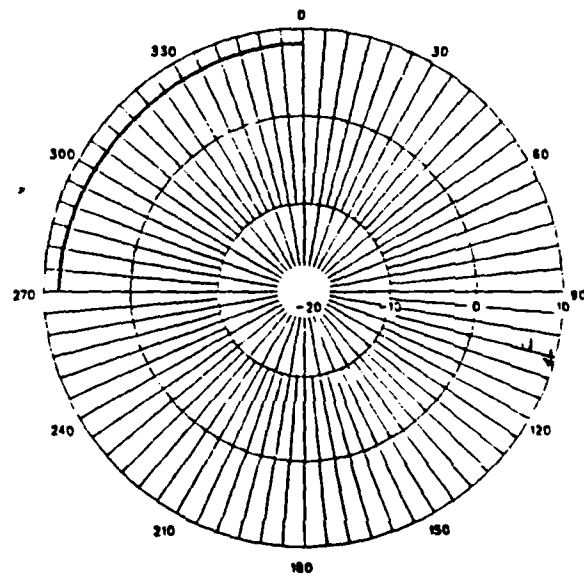
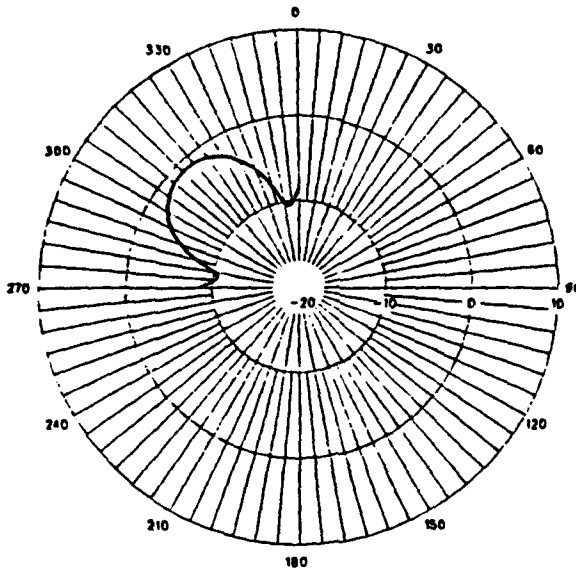
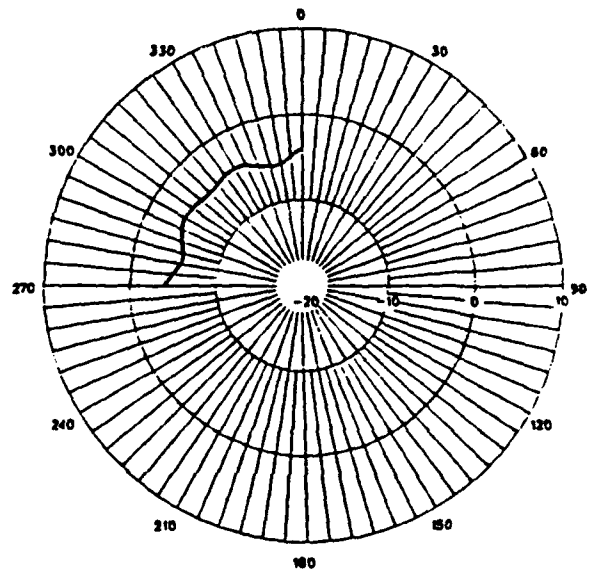


Figure 103. Azimuth patterns of the Army Highband DD antenna over perfect ground at 18 MHz

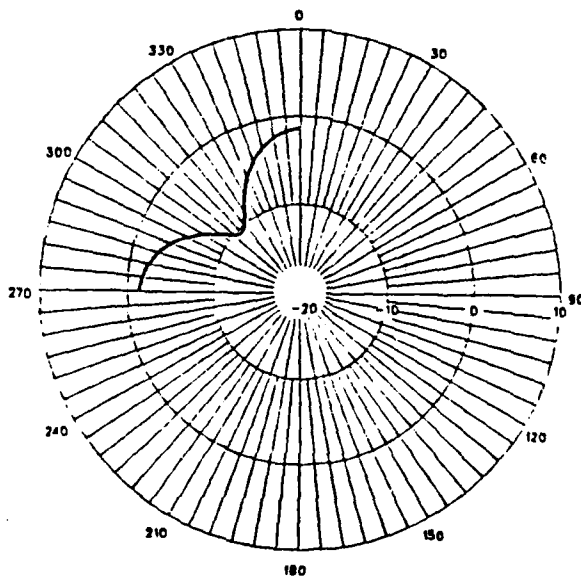
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

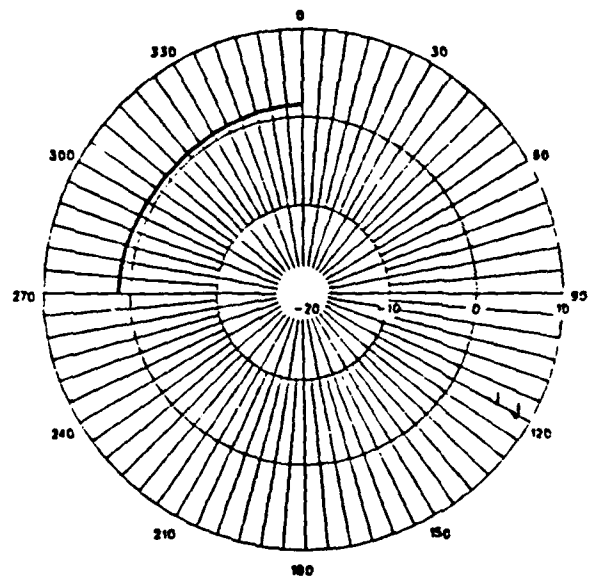
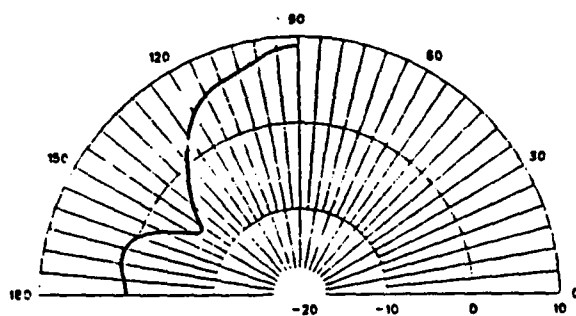
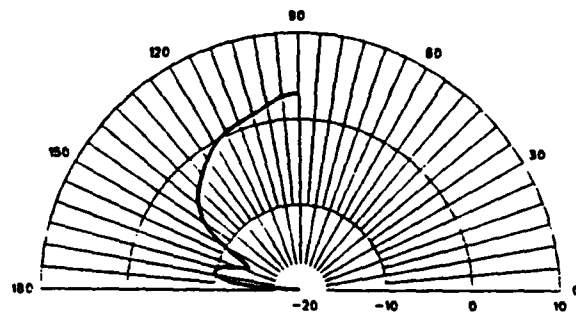


Figure 104. Azimuth patterns of the Army Highband DD antenna over fair ground at 18 MHz

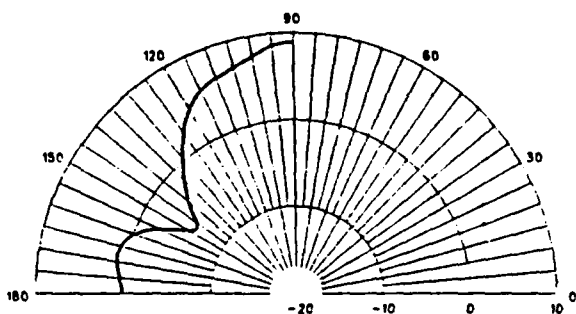
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 19 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 19 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 19 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 19 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

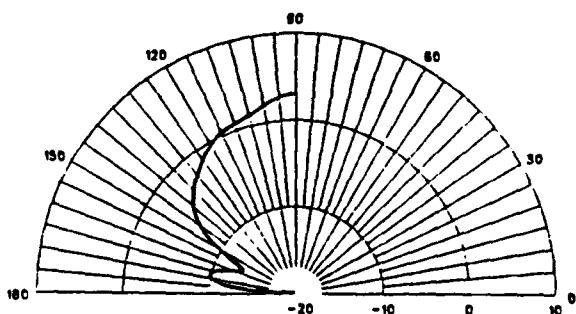
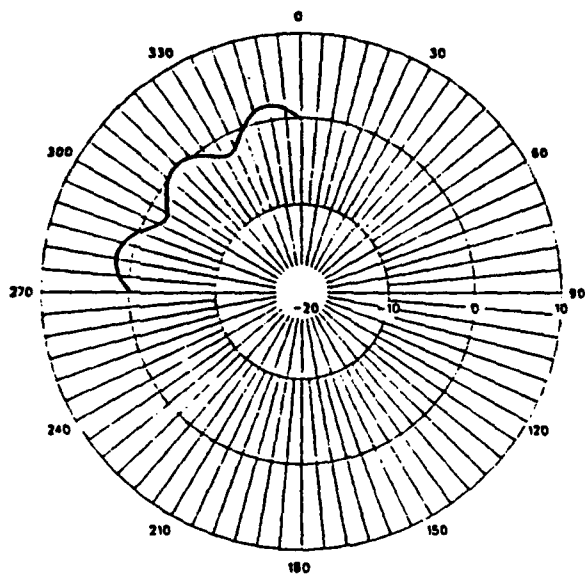
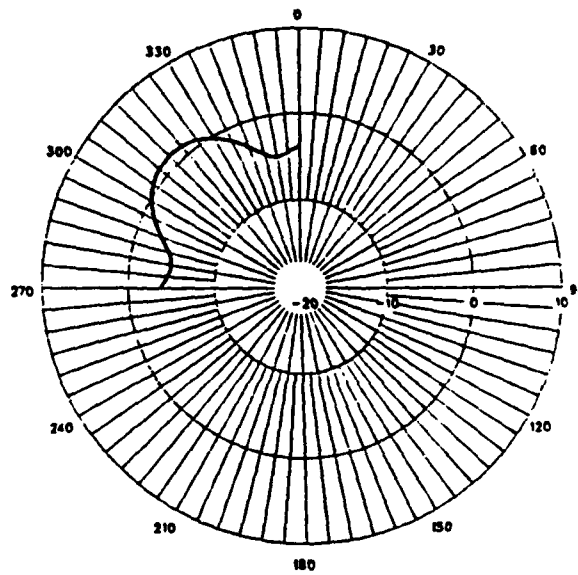


Figure 105. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 19 MHz

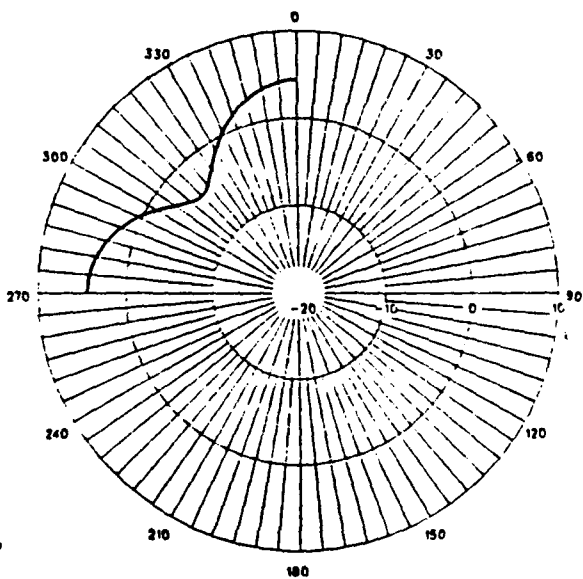
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

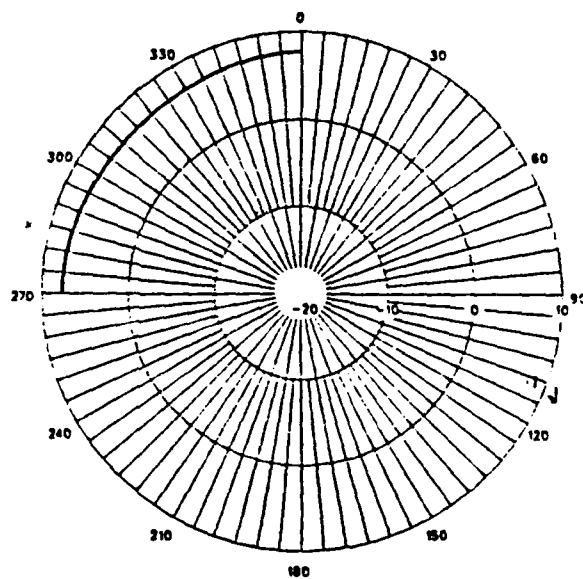
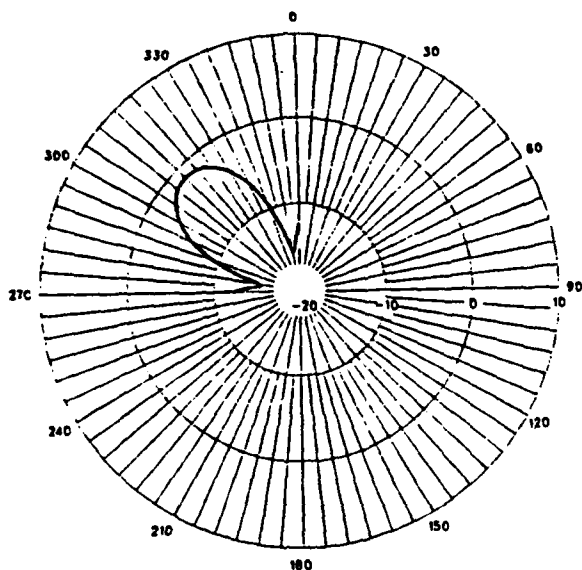
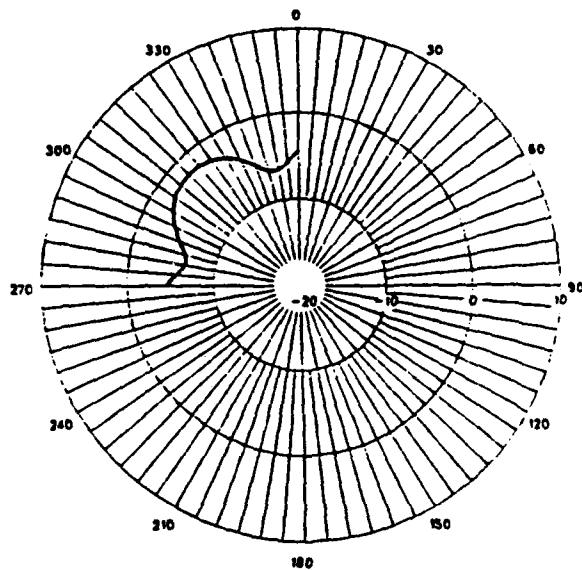


Figure 106. Azimuth patterns of the Army Highband DD antenna over perfect ground at 19 MHz

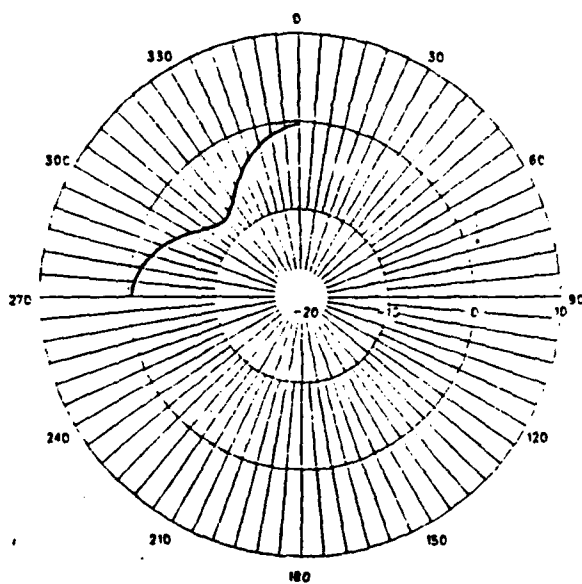
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

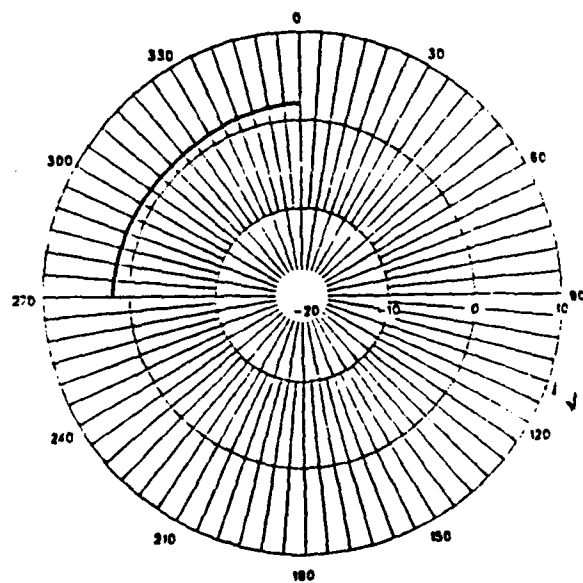
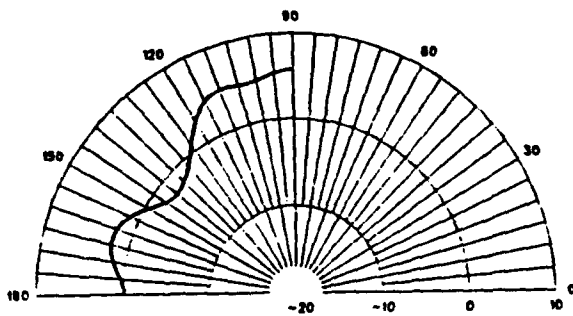
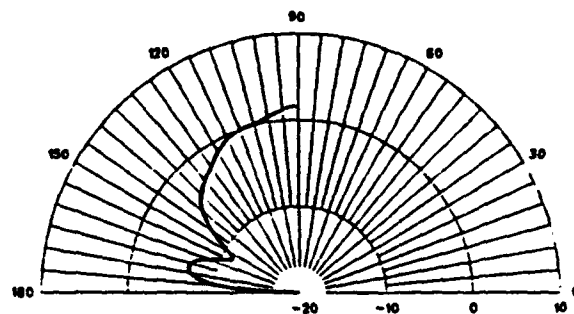


Figure 107. Azimuth patterns of the Army Highband DD antenna over fair ground at 19 MHz

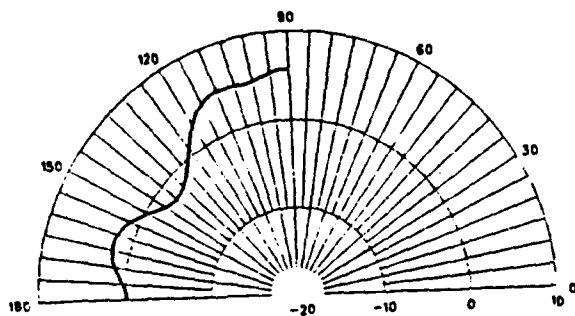
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 20 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 20 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 20 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 20 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

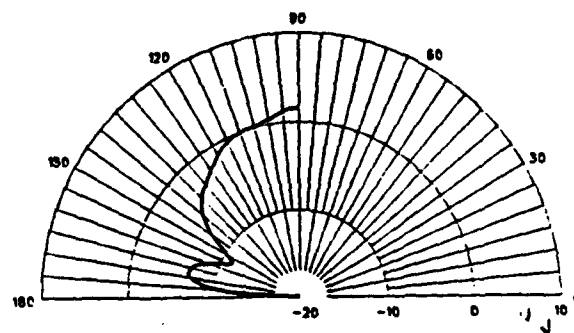
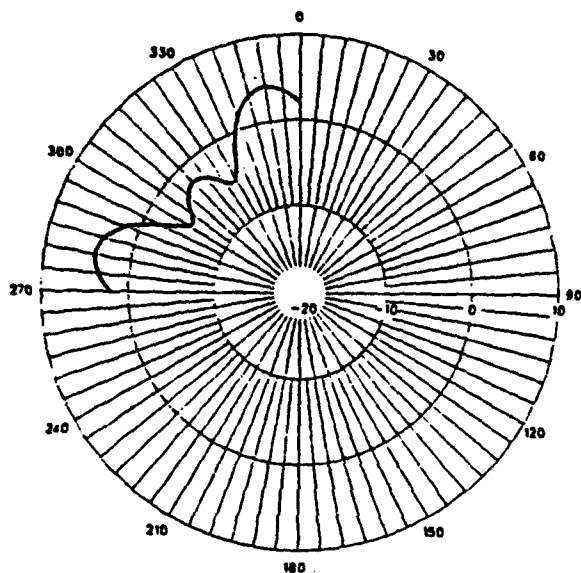
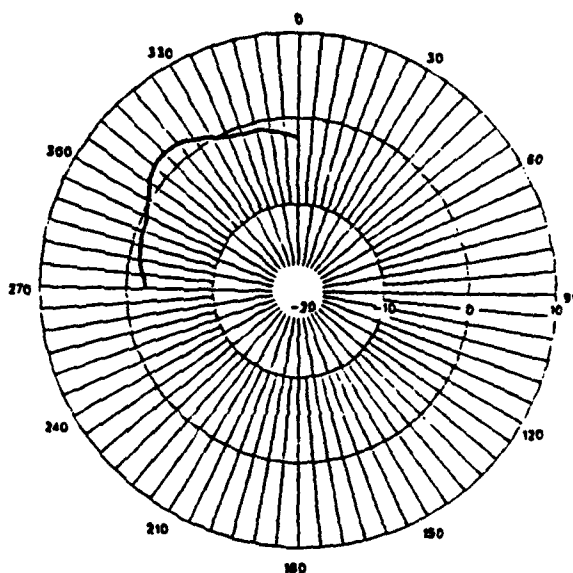


Figure 108. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 20 MHz

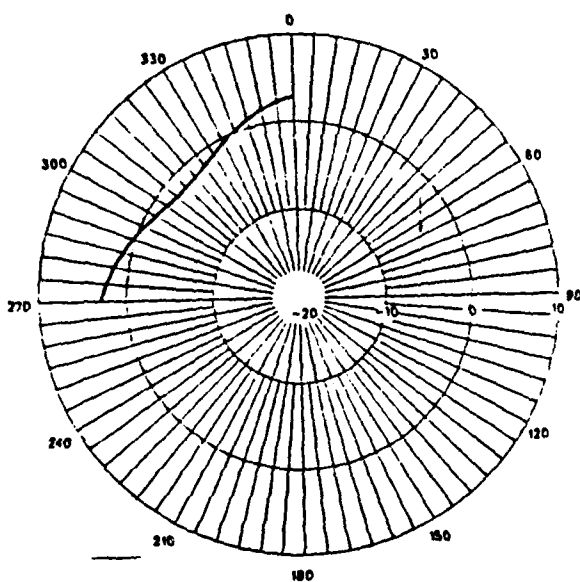
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

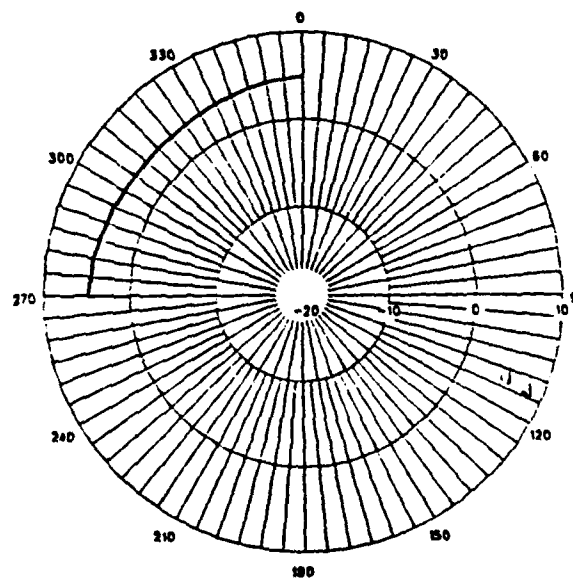
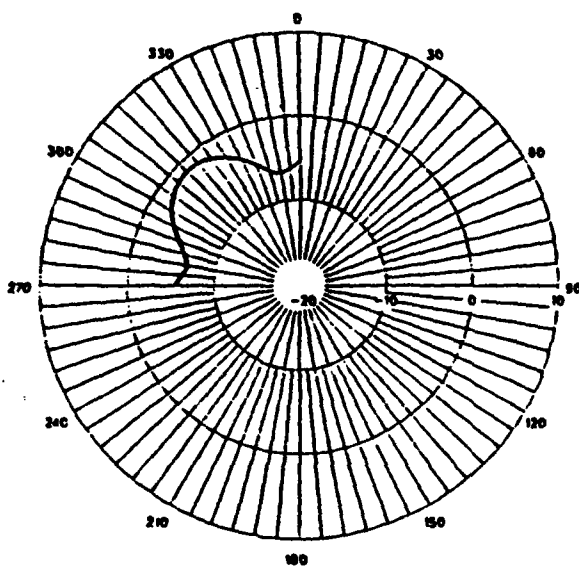
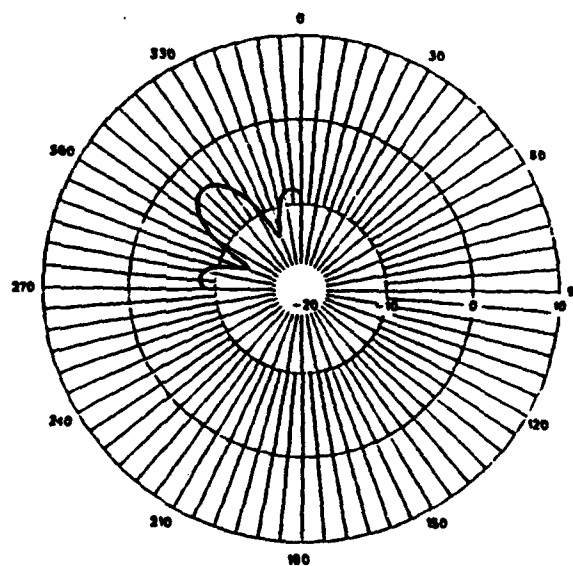


Figure 109. Azimuth patterns of the Army Highband DD antenna over perfect ground at 20 MHz

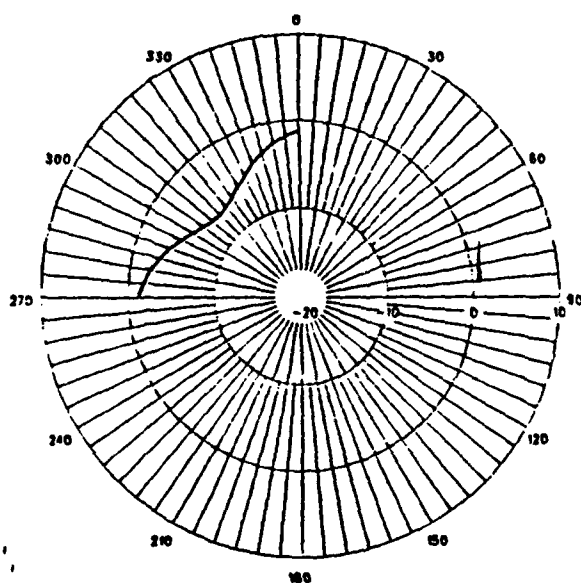
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

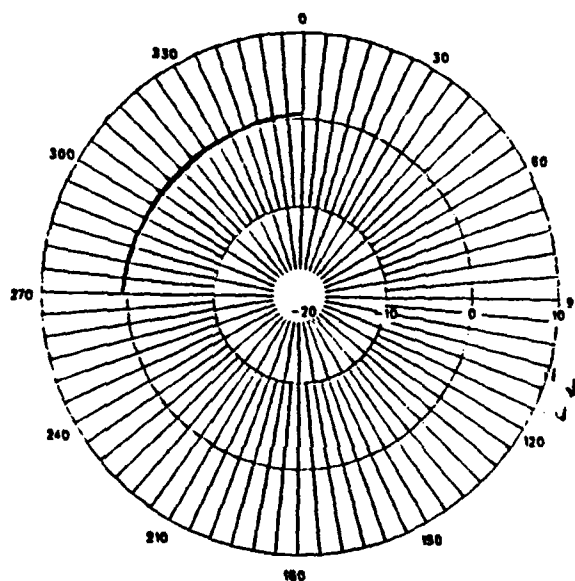
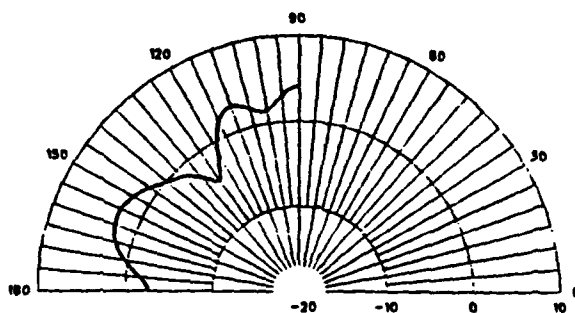
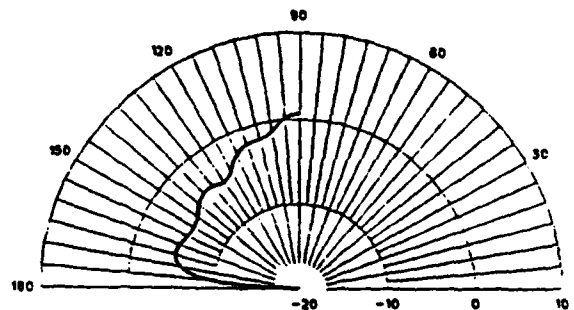


Figure 110. Azimuth patterns of the Army Highband DD antenna over fair ground at 20 MHz

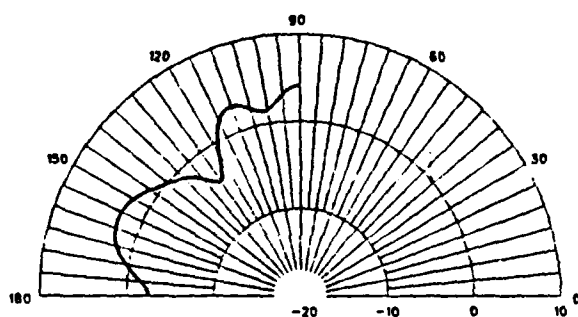
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 21 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 21 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 21 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 21 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

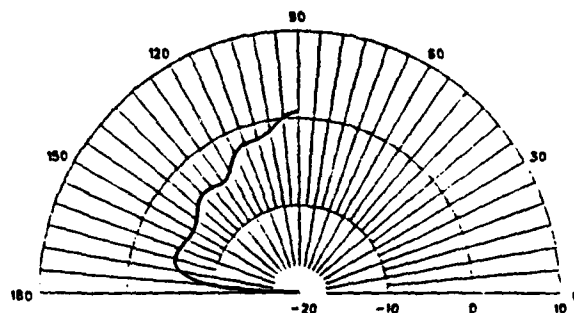
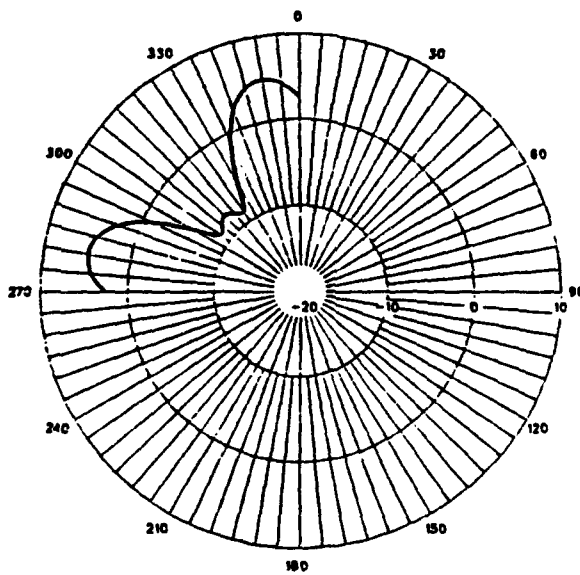
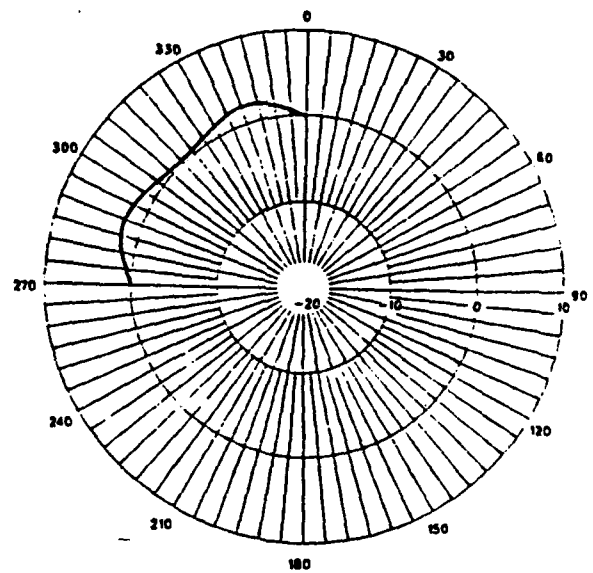


Figure 111. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 21 MHz

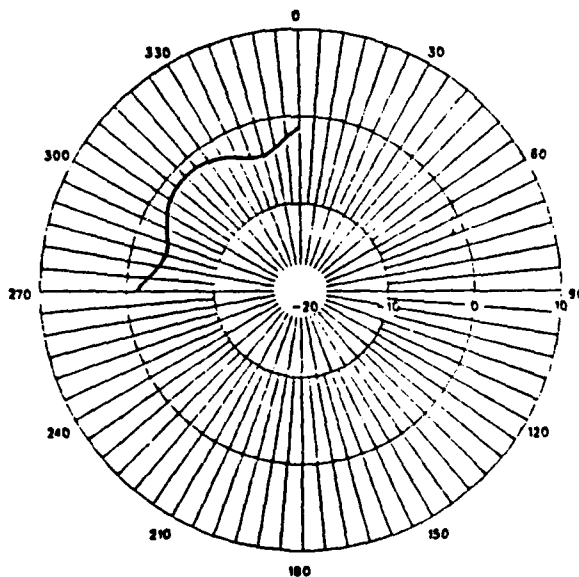
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

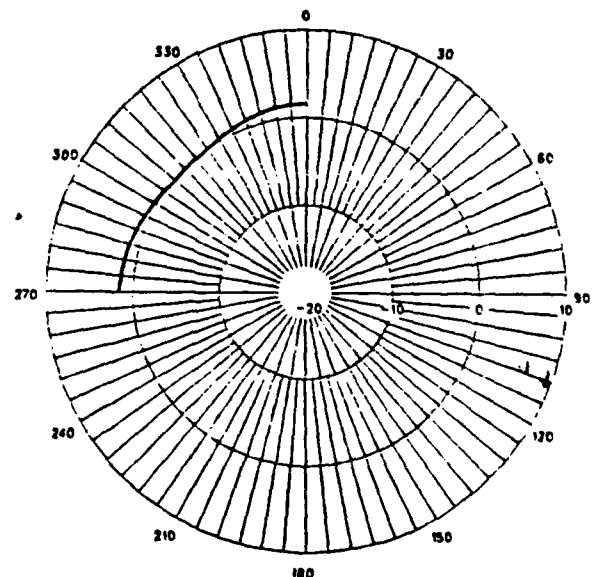
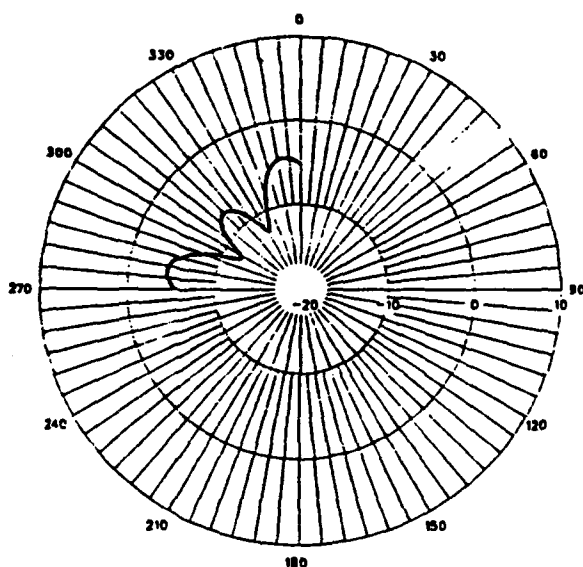
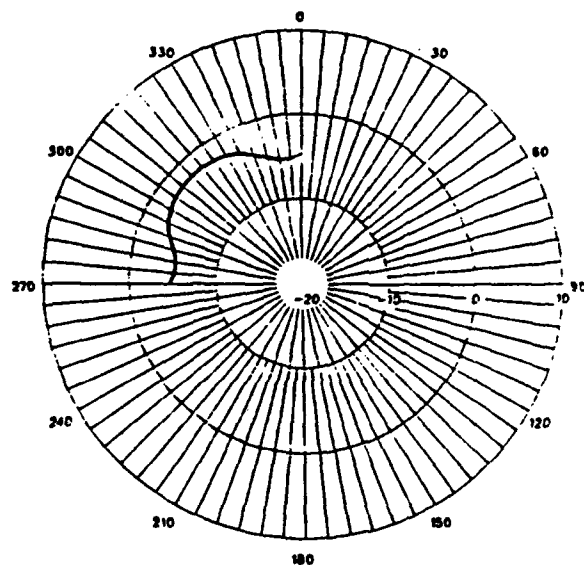


Figure 112. Azimuth patterns of the Army Highband DD antenna over perfect ground at 21 MHz

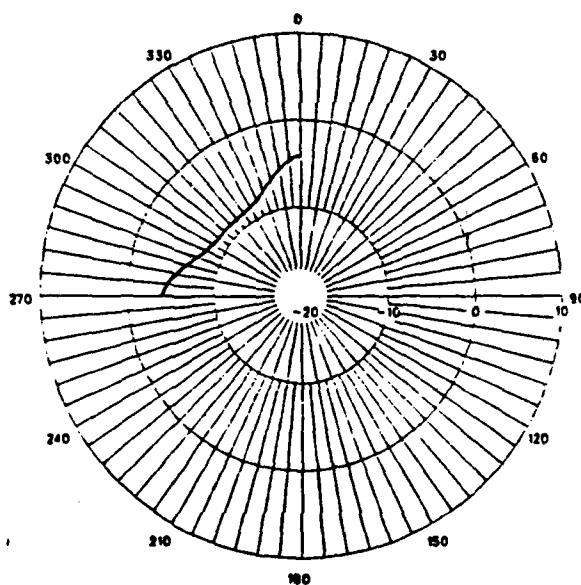
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

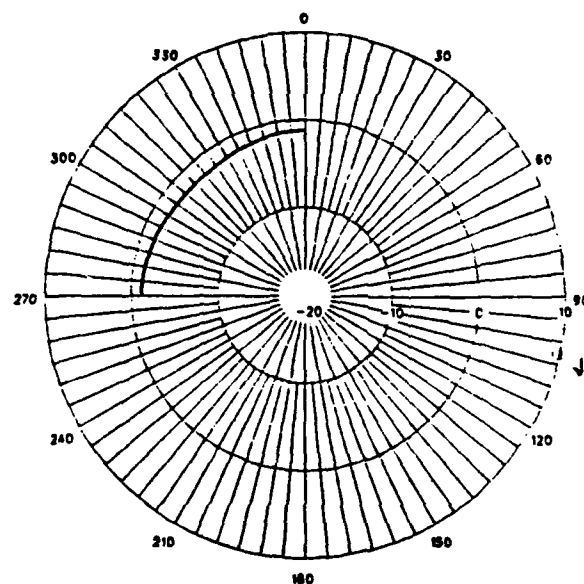
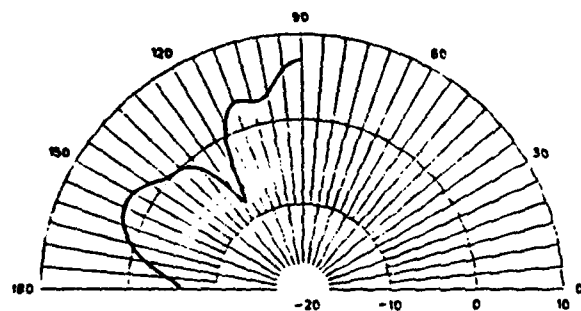
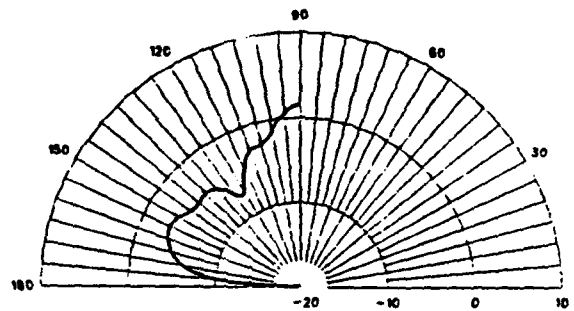


Figure 113. Azimuth patterns of the Army Highband DD antenna over fair ground at 21 MHz

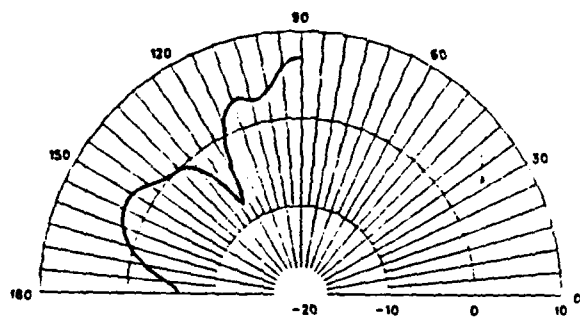
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 22 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 22 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 22 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 22 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

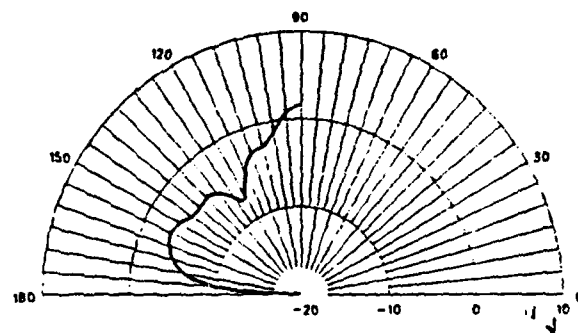
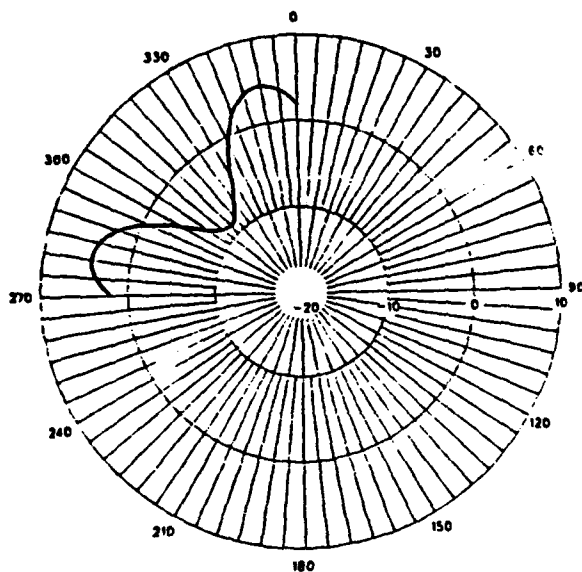
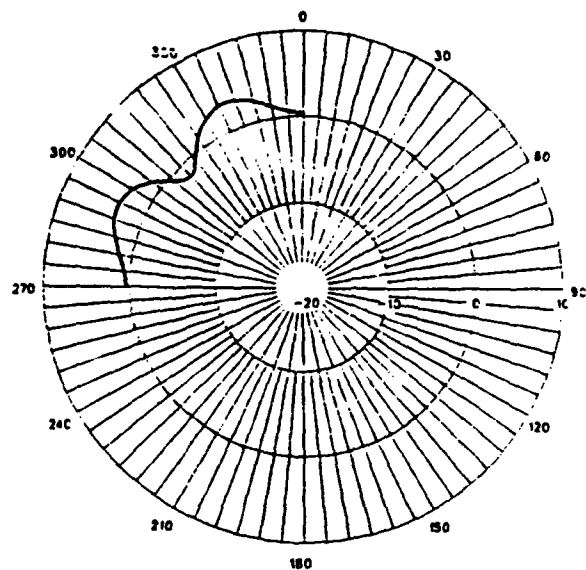


Figure 114. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 22 MHz

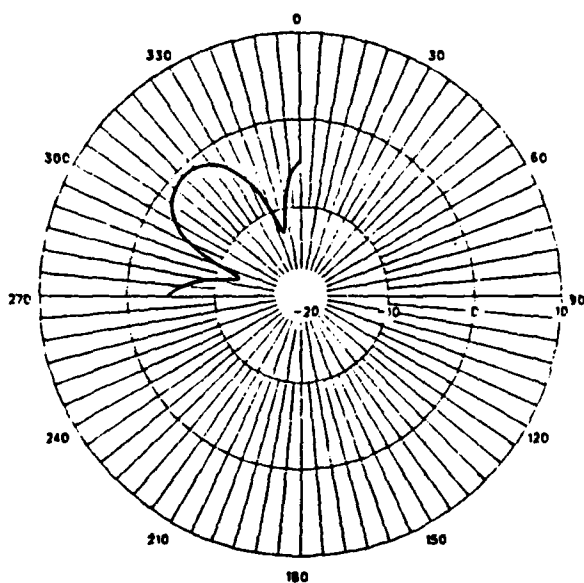
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

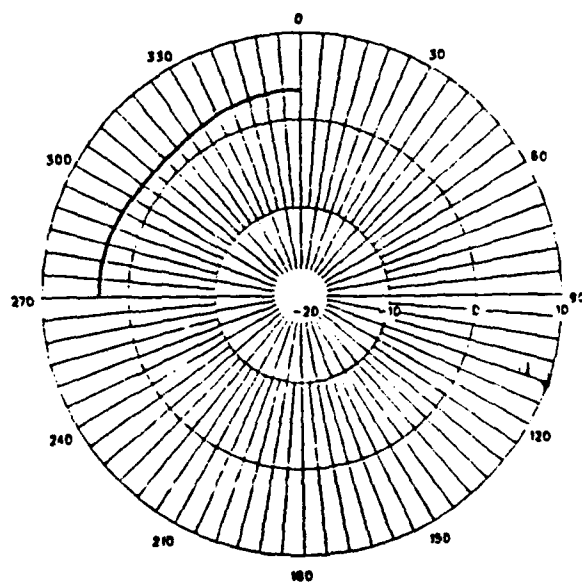


Figure 115. Azimuth patterns of the Army Highband DD antenna over perfect ground at 22 MHz

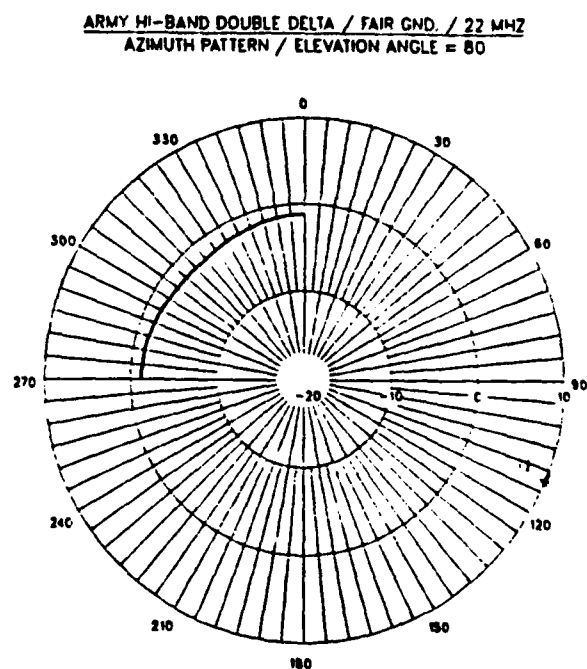
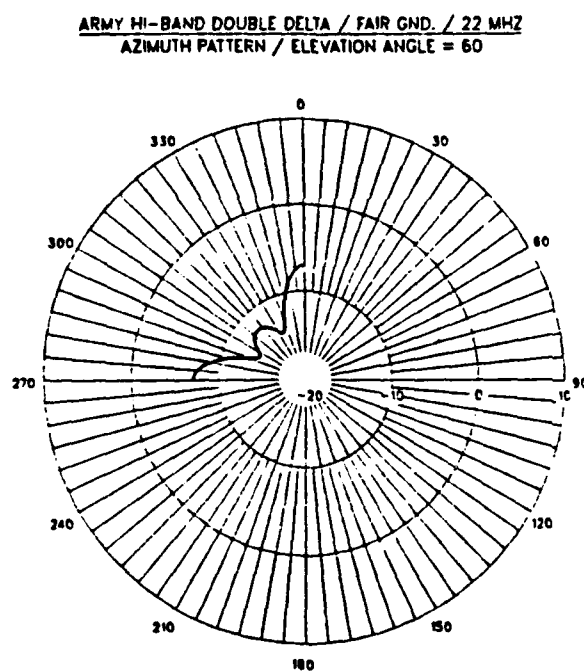
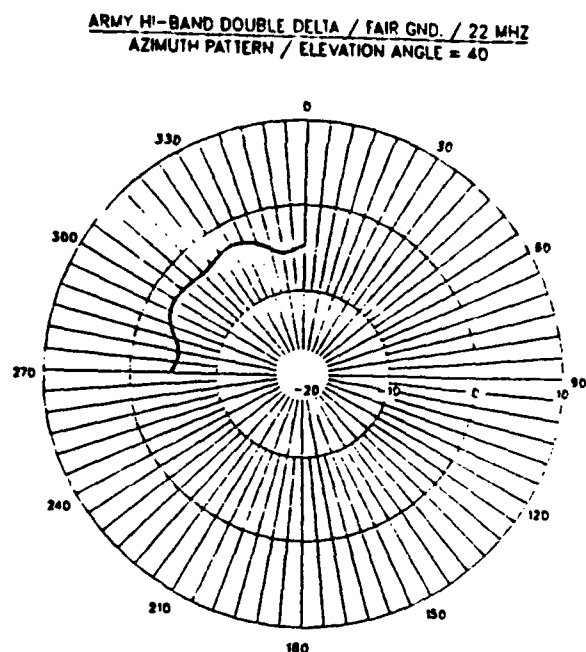
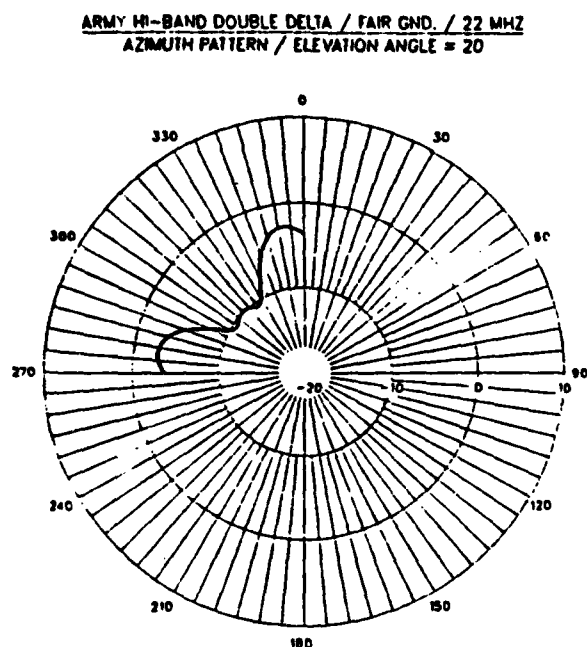
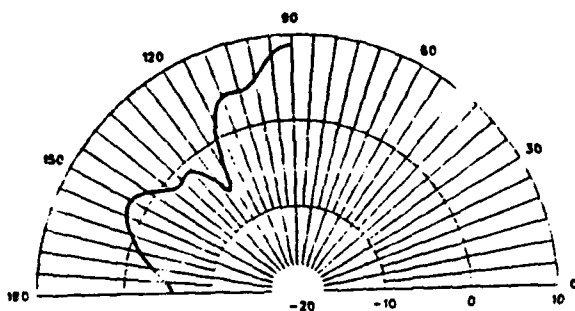
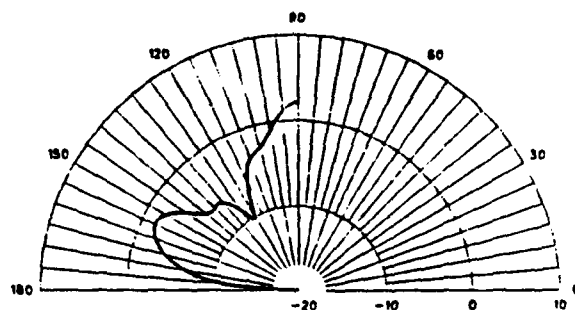


Figure 116. Azimuth patterns of the Army Highband DD antenna over fair ground at 22 MHz

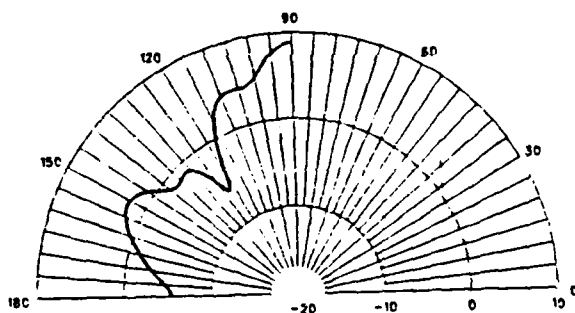
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 23 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 23 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 23 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 23 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

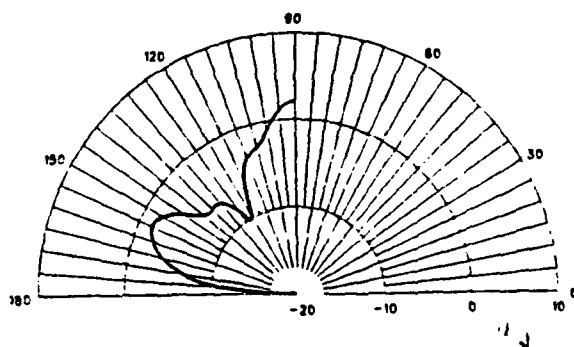
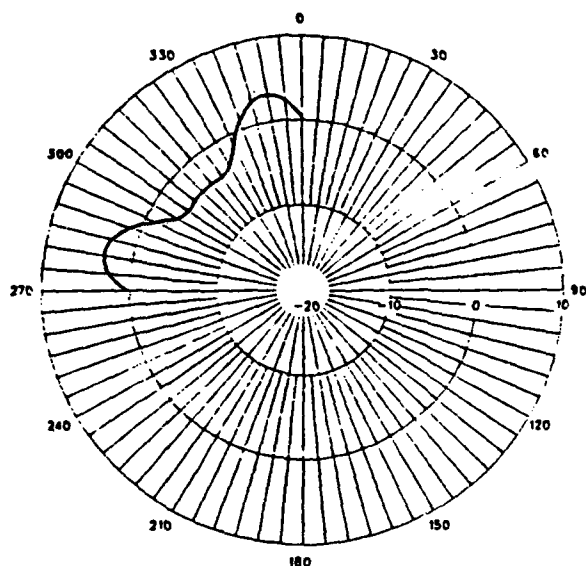
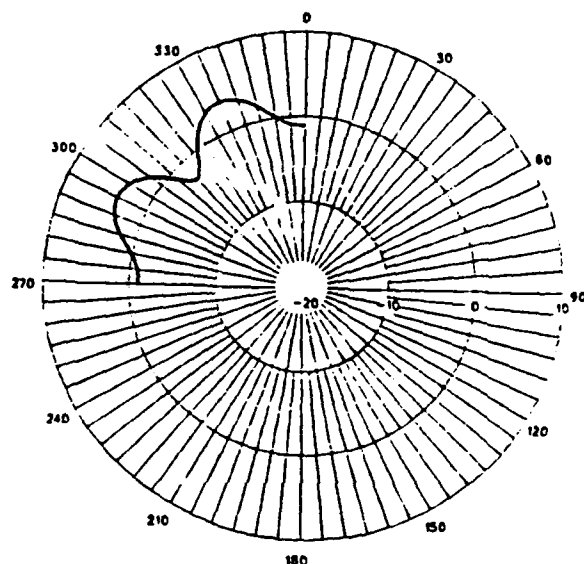


Figure 117. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 23 MHz

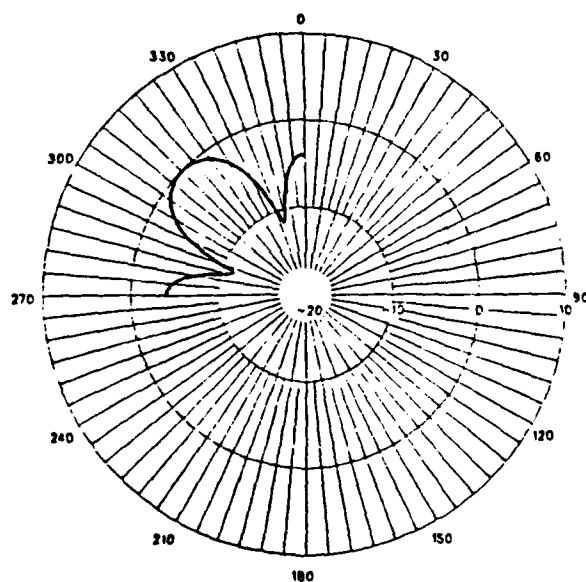
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

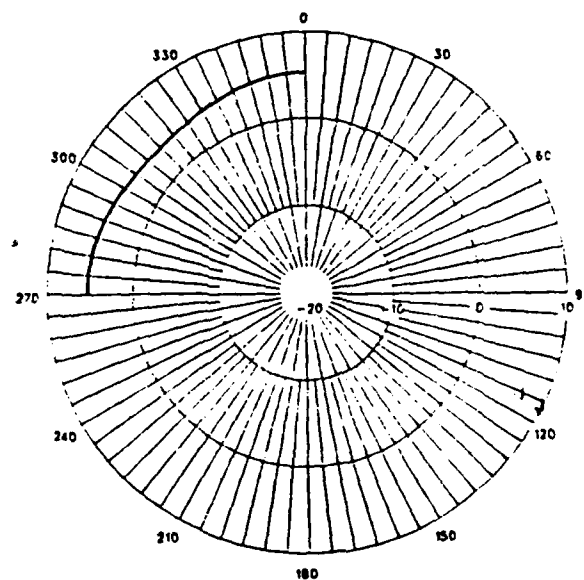
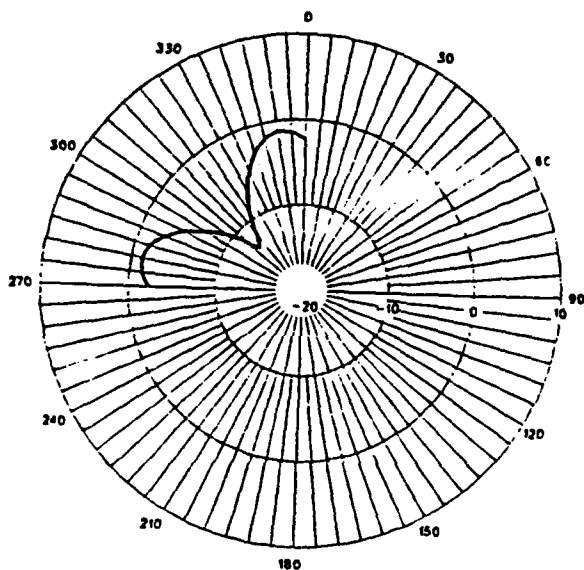
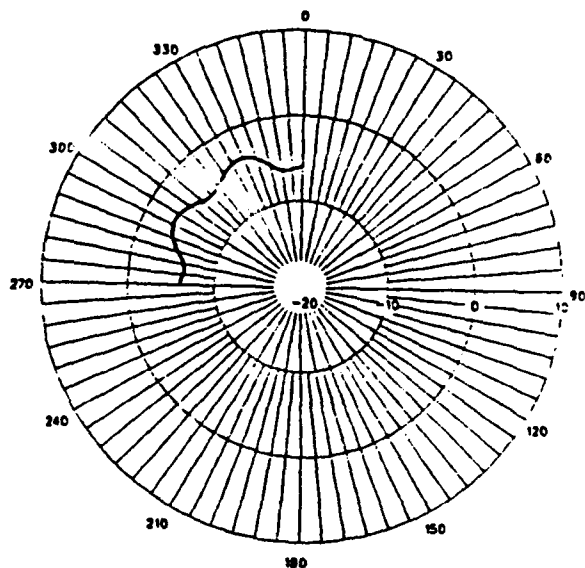


Figure 118. Azimuth patterns of the Army Highband DD antenna over perfect ground at 23 MHz

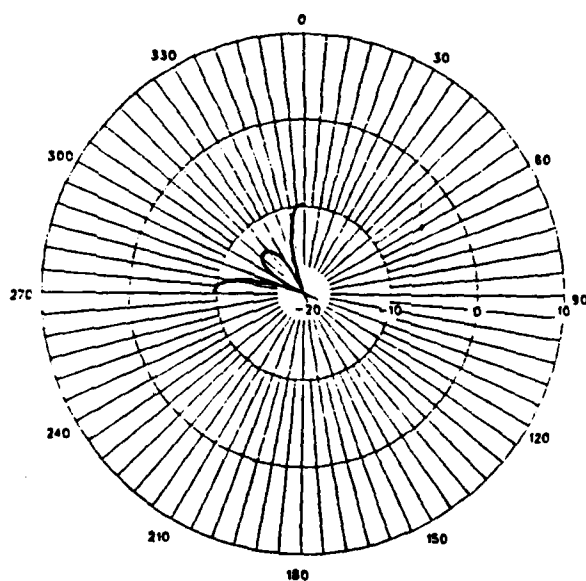
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

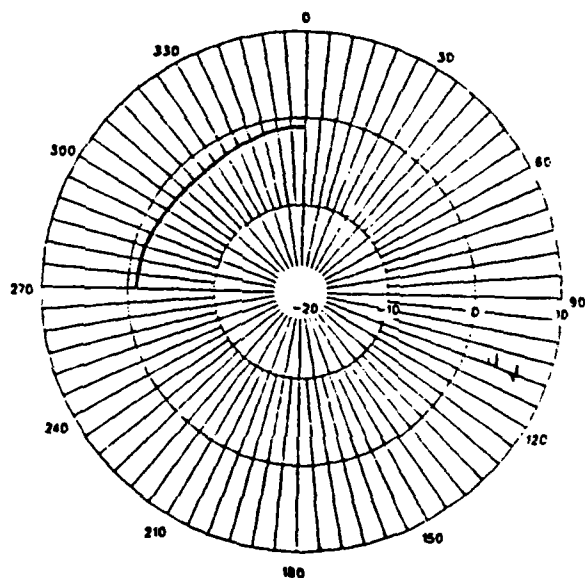
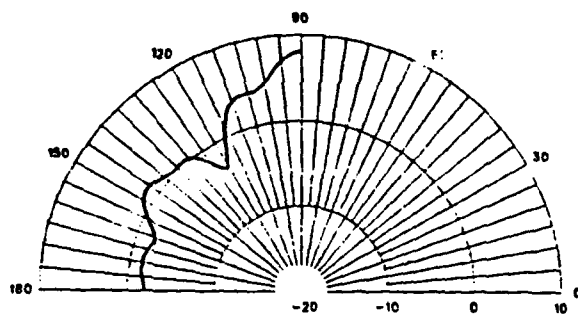
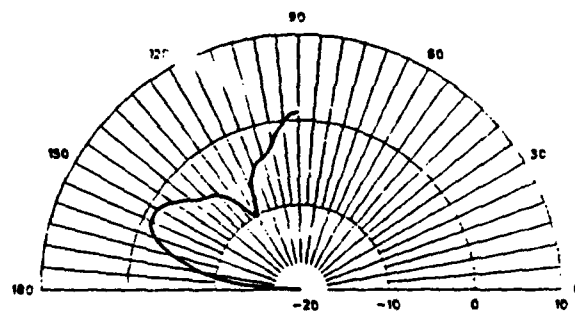


Figure 119. Azimuth patterns of the Army Highband DD antenna over fair ground at 23 MHz

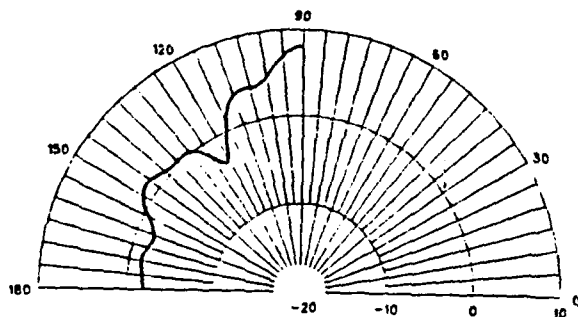
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 24 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 24 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 24 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 24 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

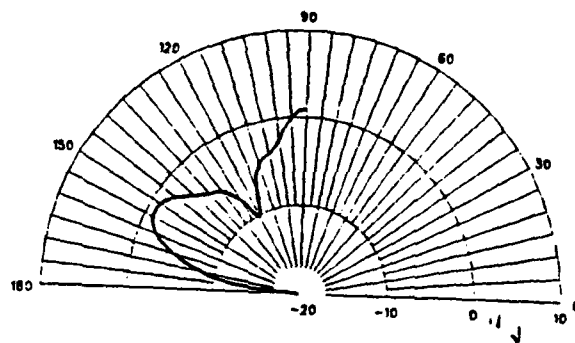
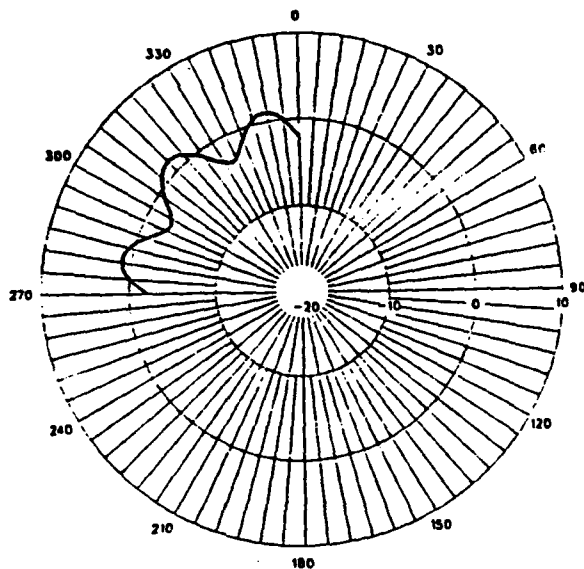
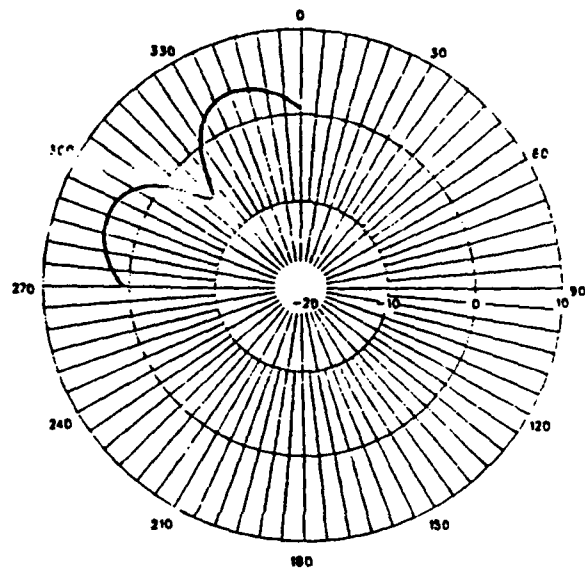


Figure 120. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 24 MHz

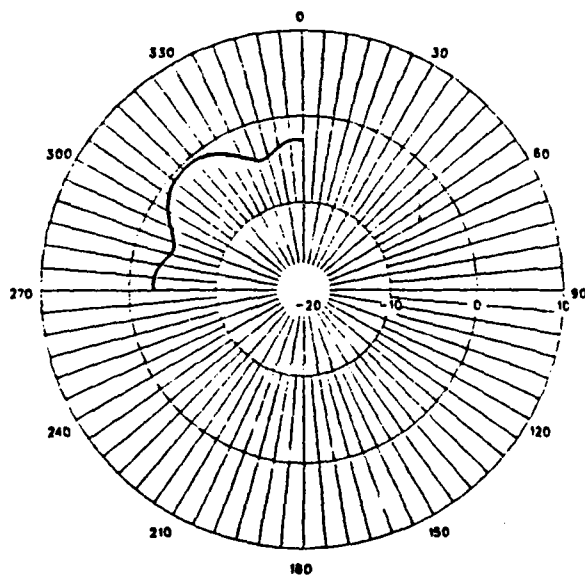
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

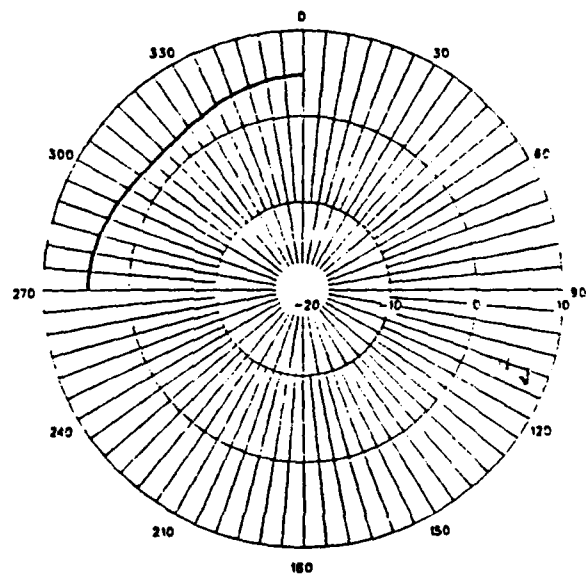
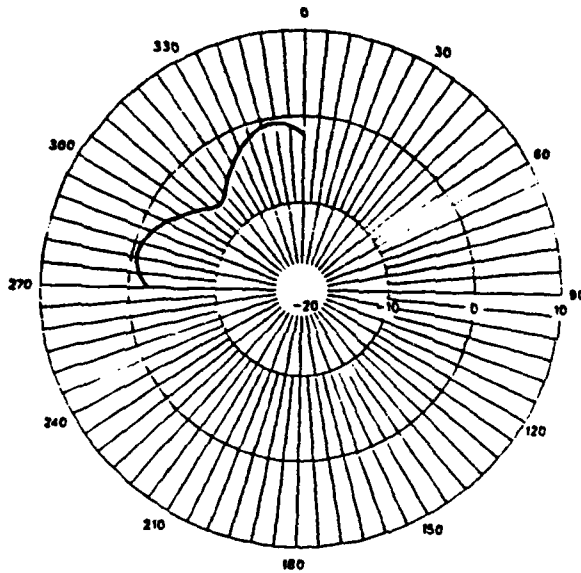
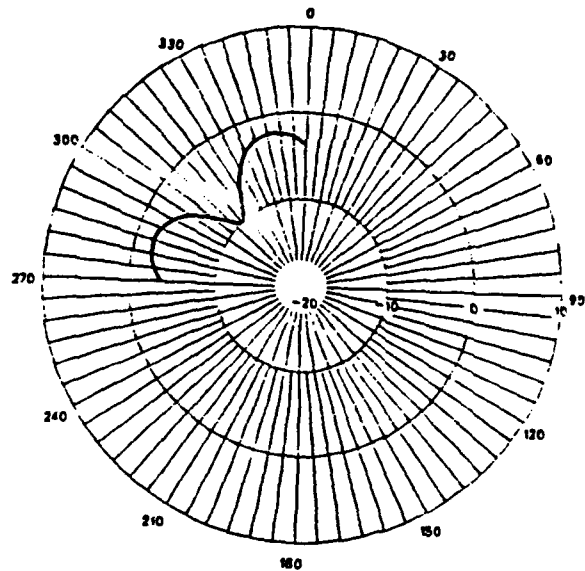


Figure 121. Azimuth patterns of the Army Highband DD antenna over perfect ground at 24 MHz

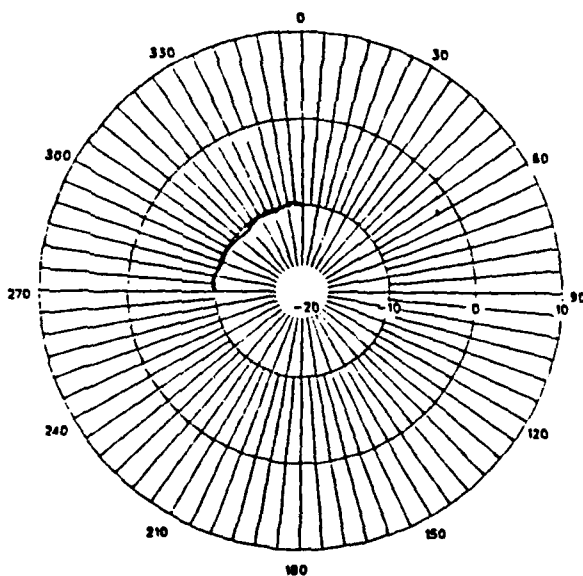
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

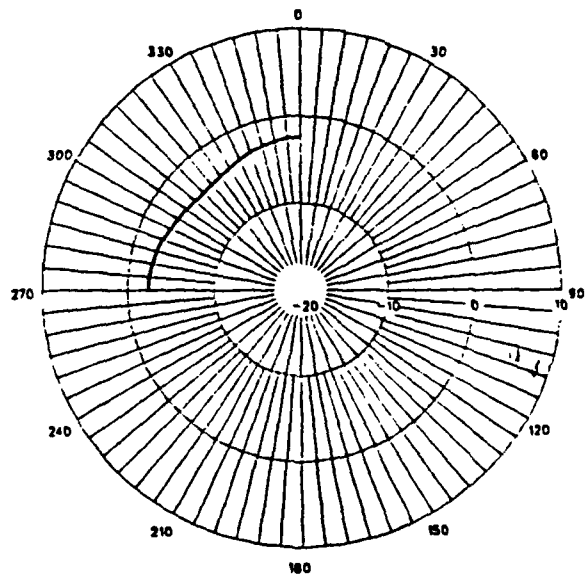
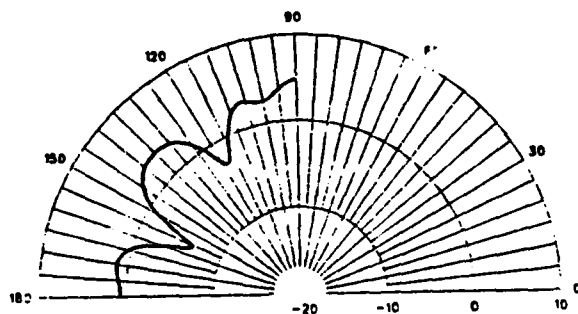
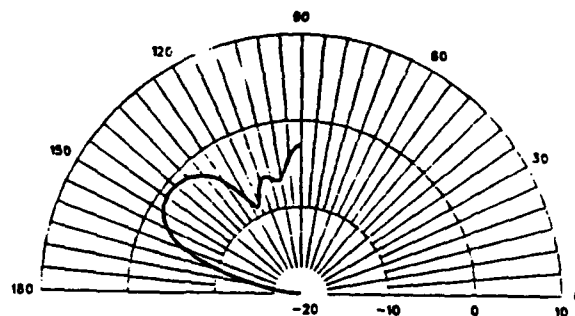


Figure 122. Azimuth patterns of the Army Highband DD antenna over fair ground at 24 MHz

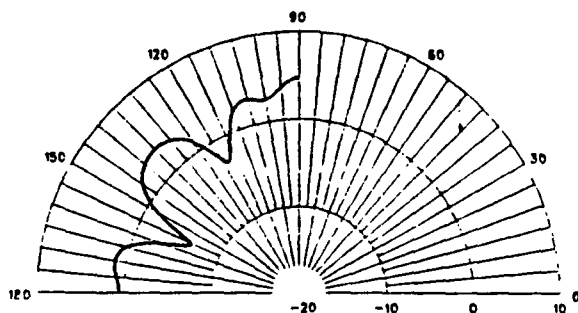
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 25 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 25 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 25 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 25 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

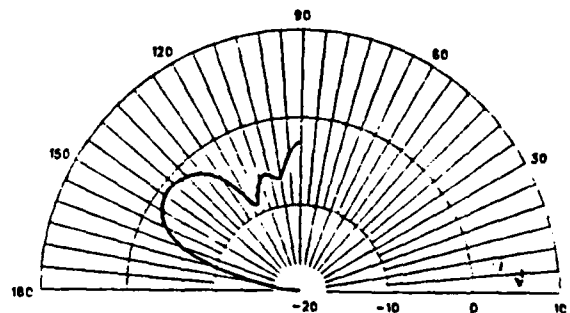
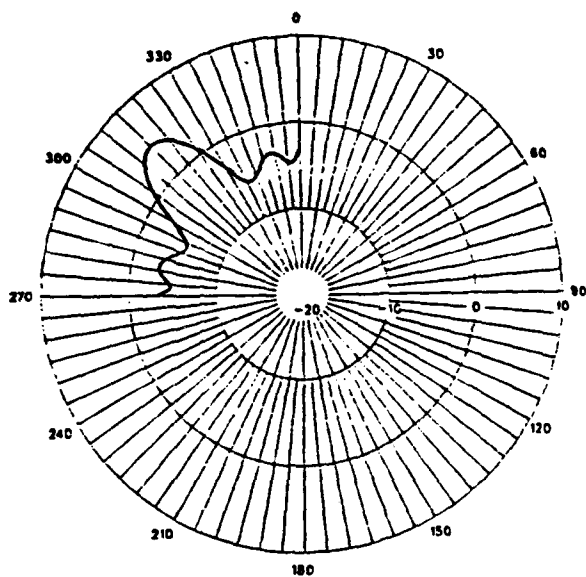
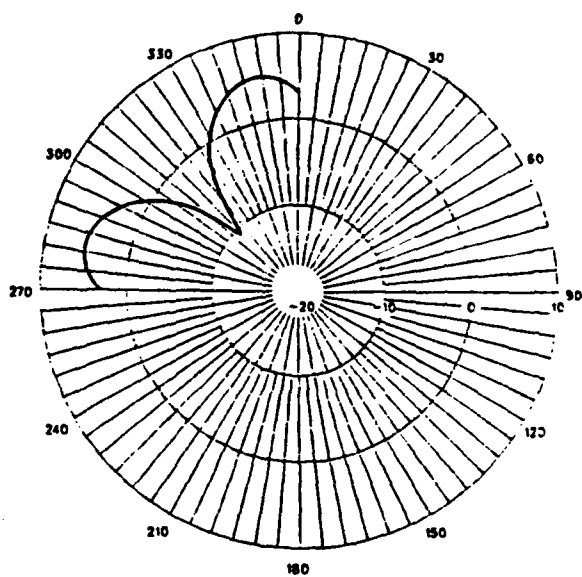


Figure 123. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 25 MHz

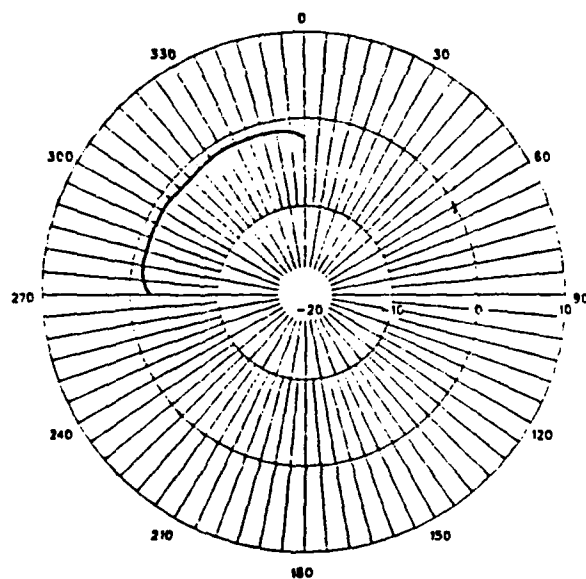
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

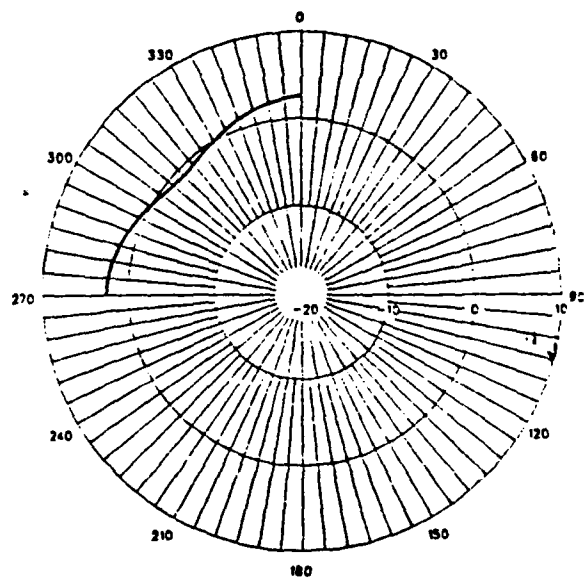
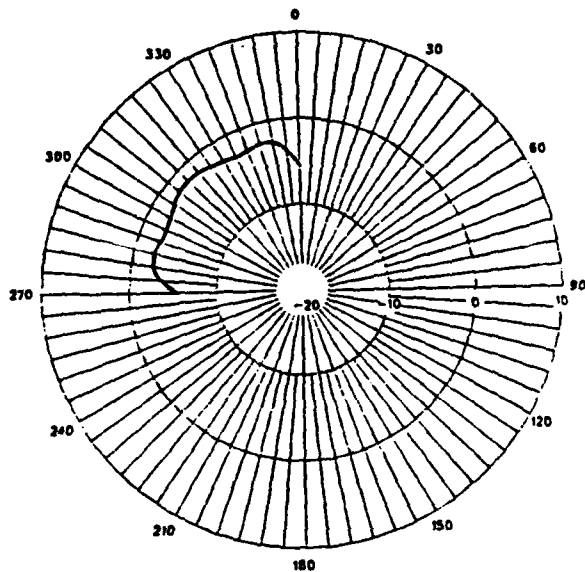
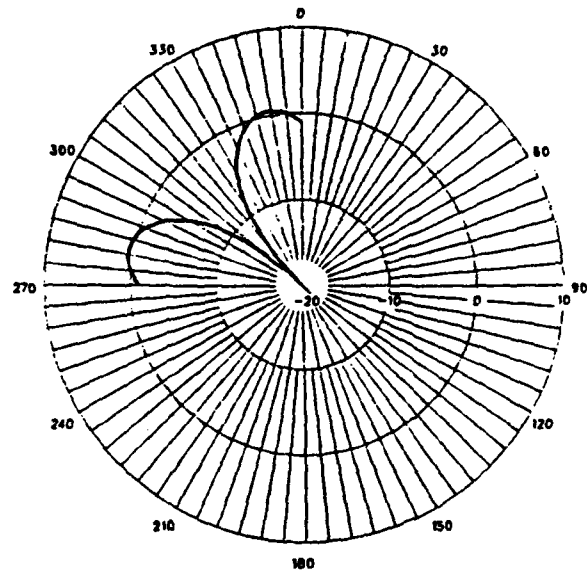


Figure 124. Azimuth patterns of the Army Highband DD antenna over perfect ground at 25 MHz

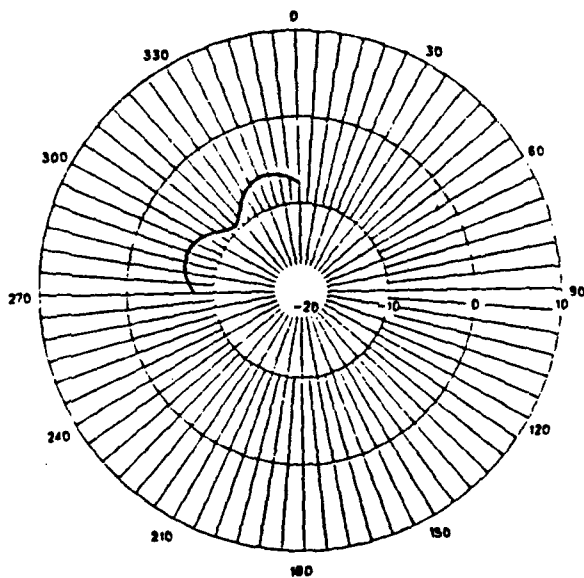
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

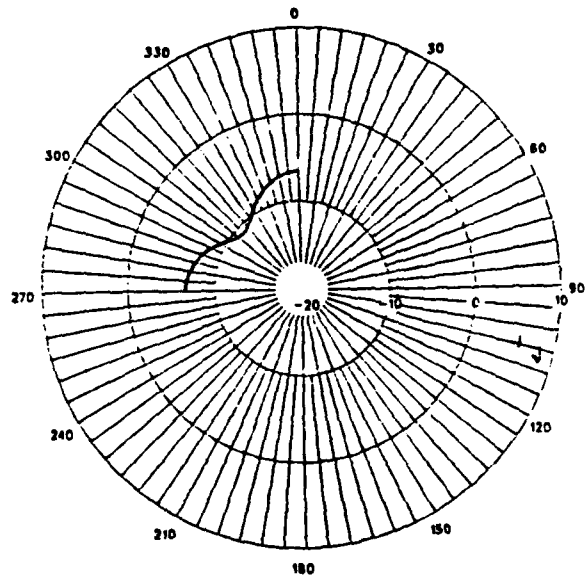
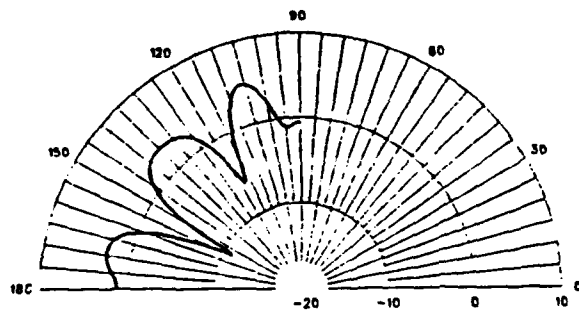
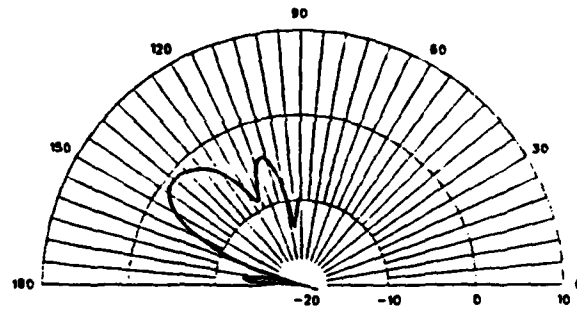


Figure 125. Azimuth patterns of the Army Highband DD antenna over fair ground at 25 MHz

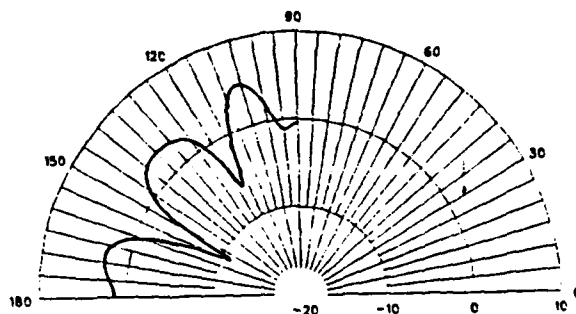
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 26 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 26 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 26 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 26 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

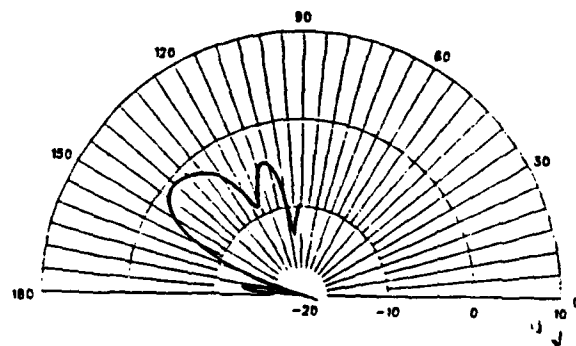
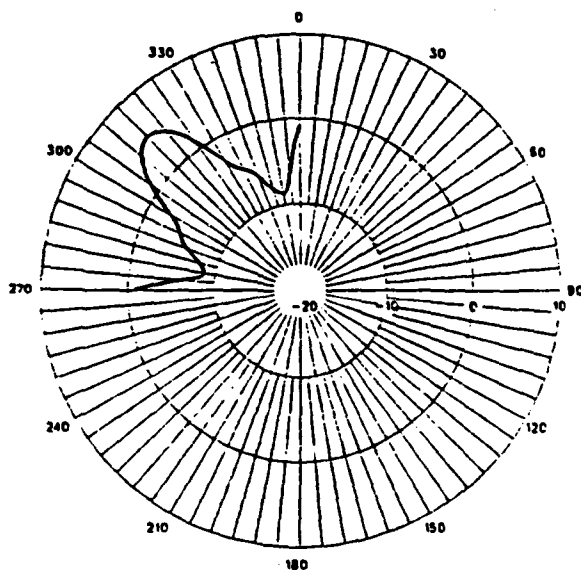
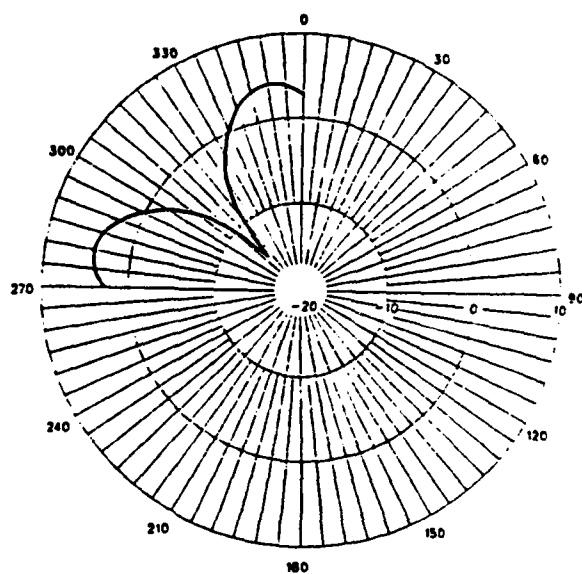


Figure 126. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 26 MHz

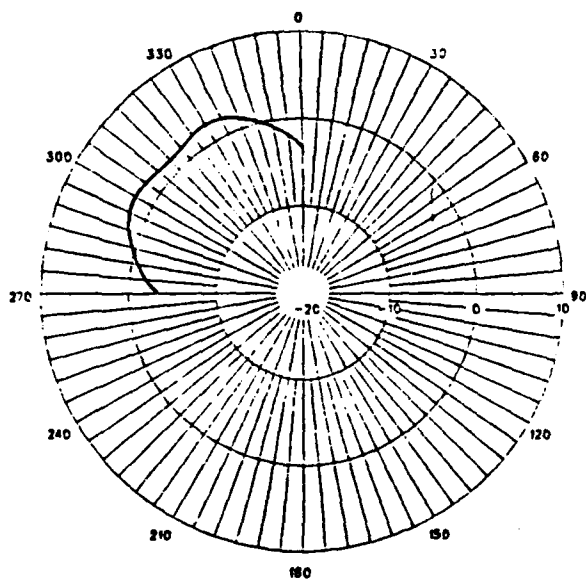
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

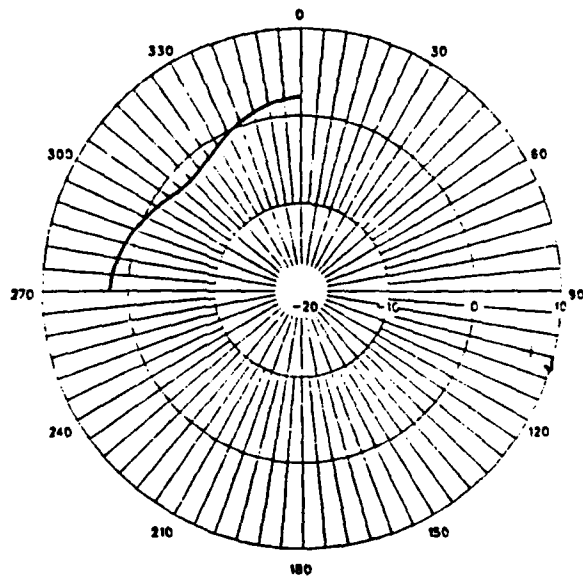
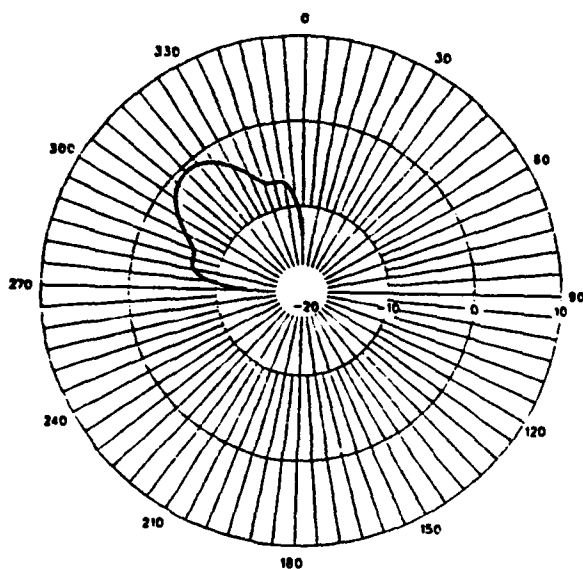
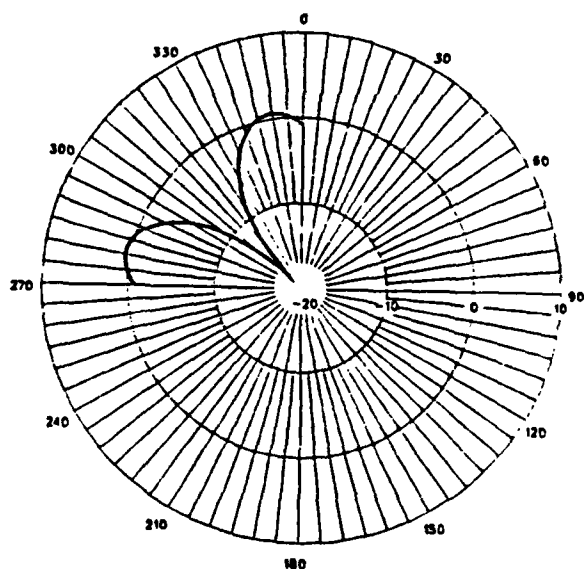


Figure 127. Azimuth patterns of the Army Highband DD antenna over perfect ground at 26 MHz.

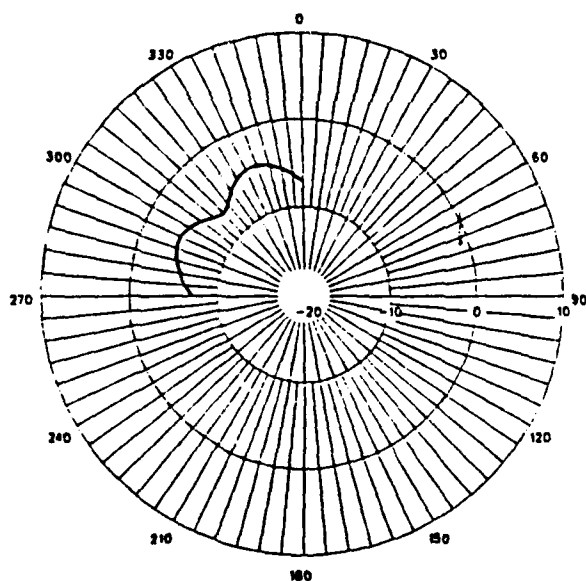
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

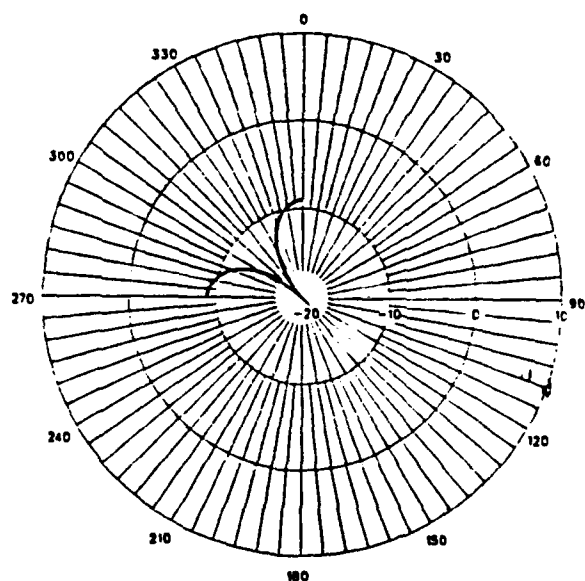
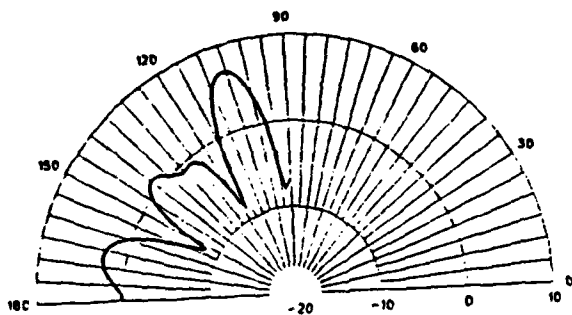
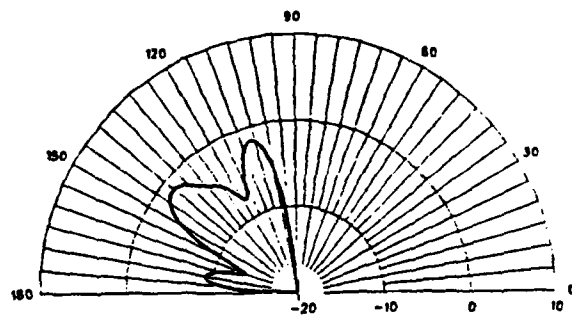


Figure 128. Azimuth patterns of the Army Highband DD antenna over fair ground at 26 MHz

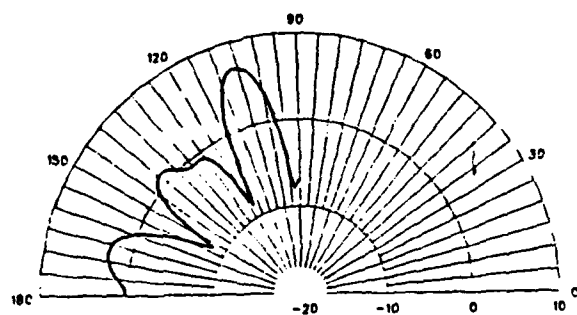
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 27 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 27 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 27 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 27 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

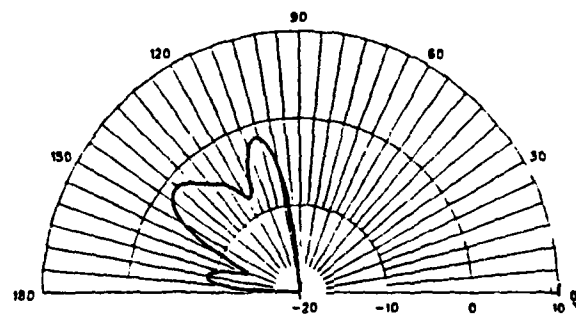
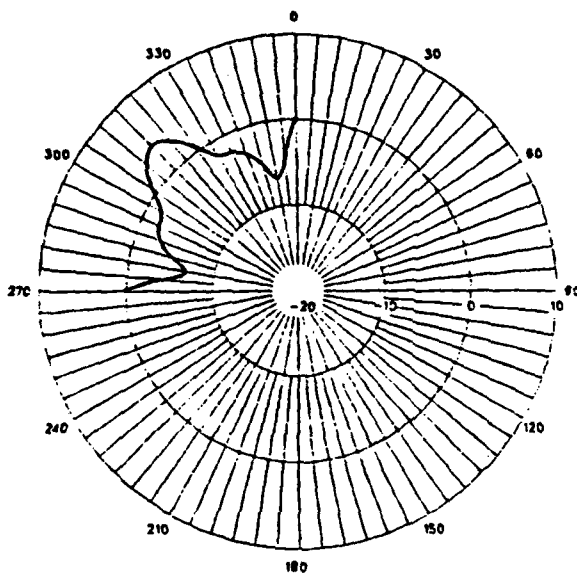
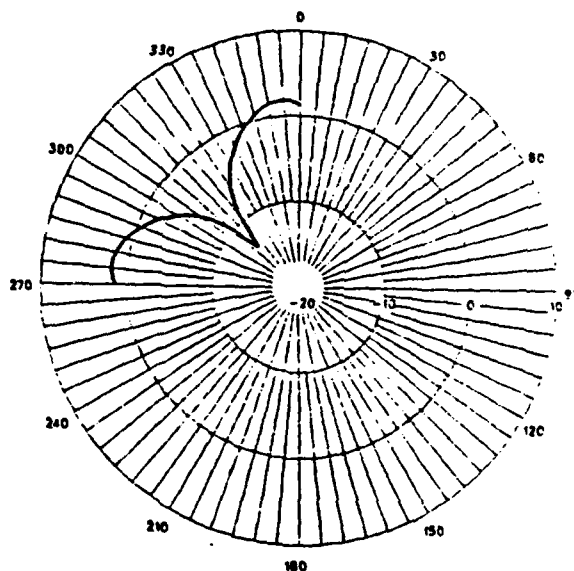


Figure 129. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 27 MHz

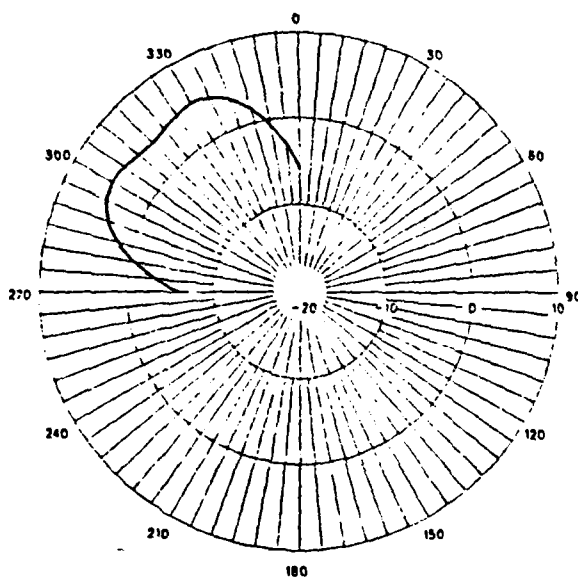
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

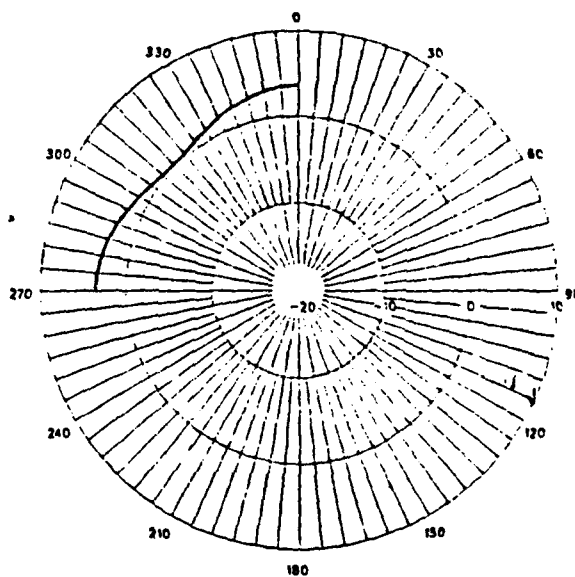
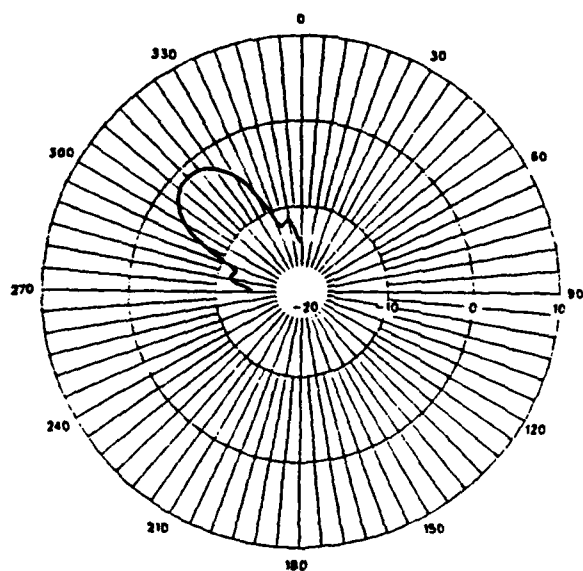
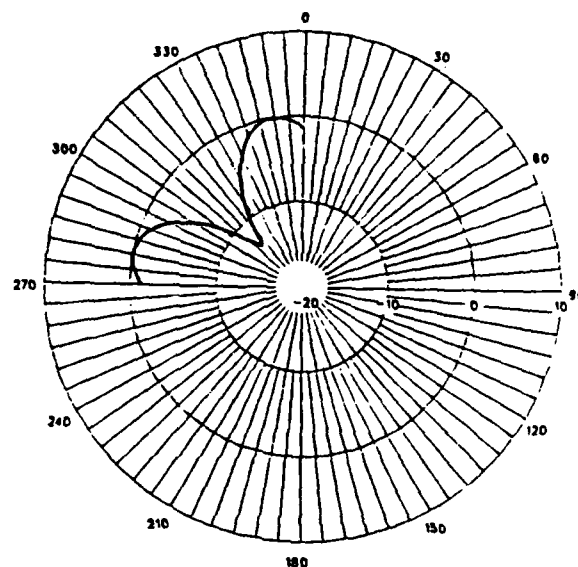


Figure 130. Azimuth patterns of the Army Highband DD antenna over perfect ground at 27 MHz

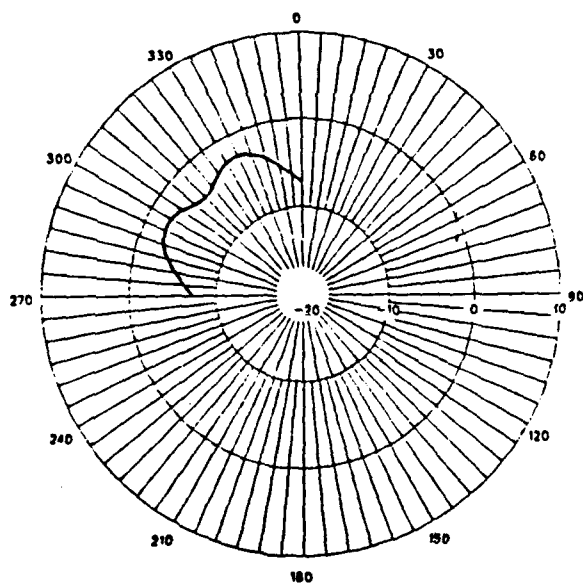
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

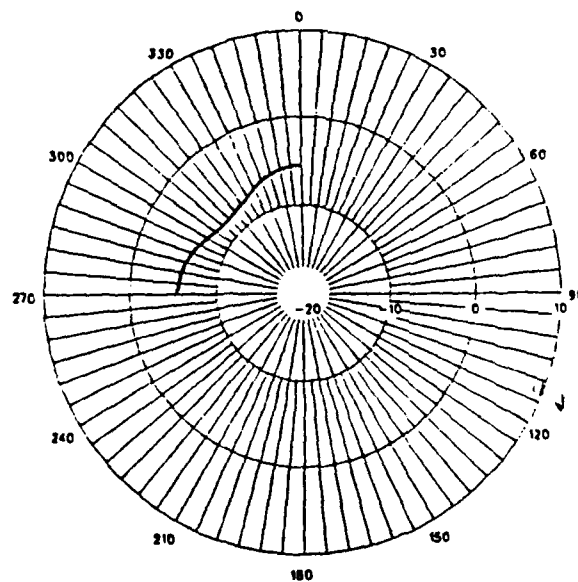
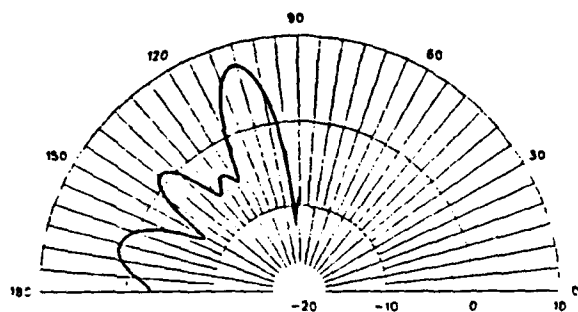
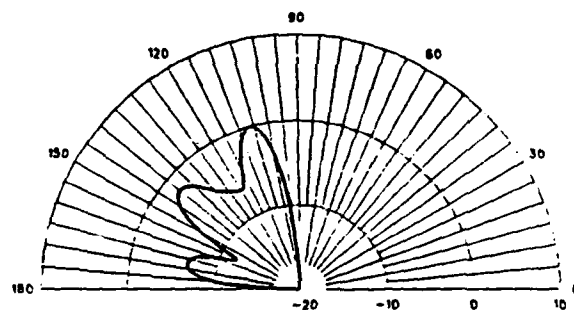


Figure 131. Azimuth patterns of the Army Highband DD antenna over fair ground at 27 MHz

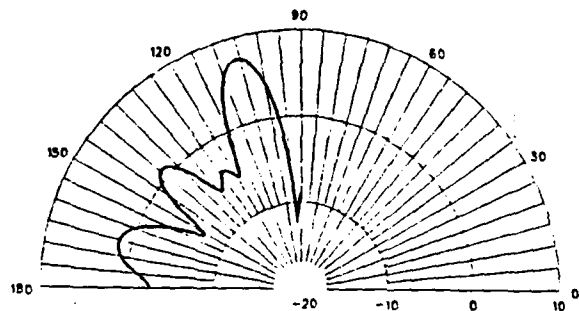
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 28 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 28 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 28 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 28 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

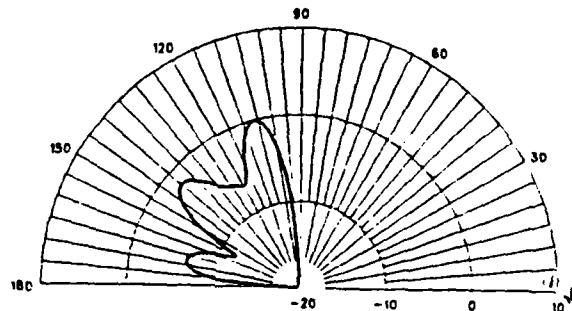
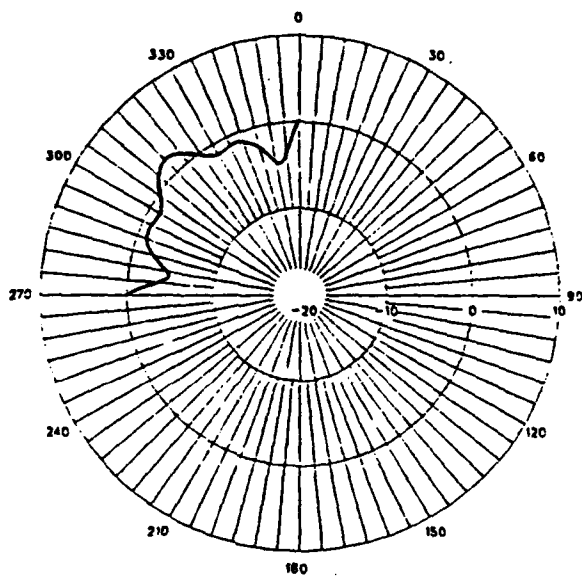
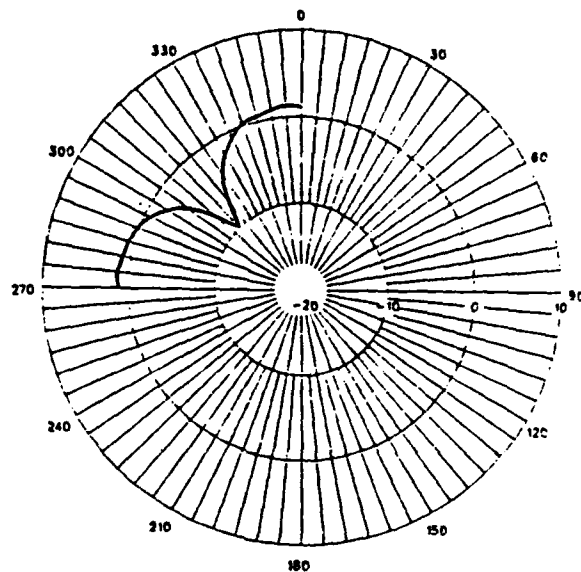


Figure 132. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 28 MHz

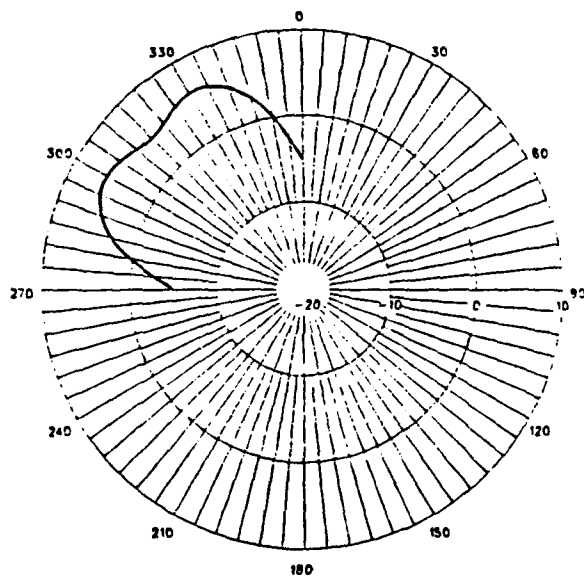
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

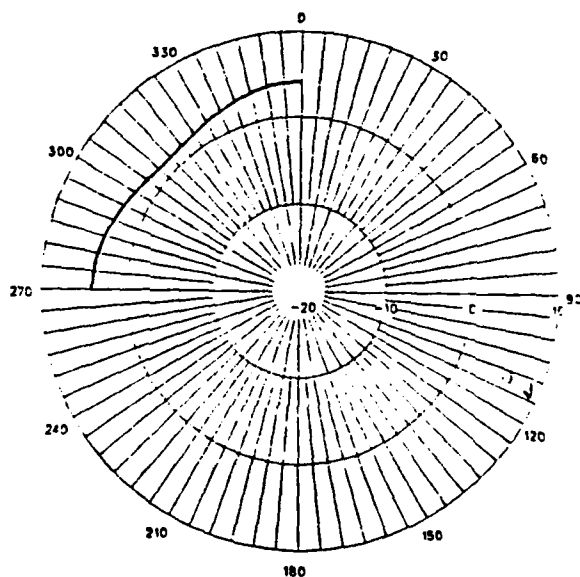
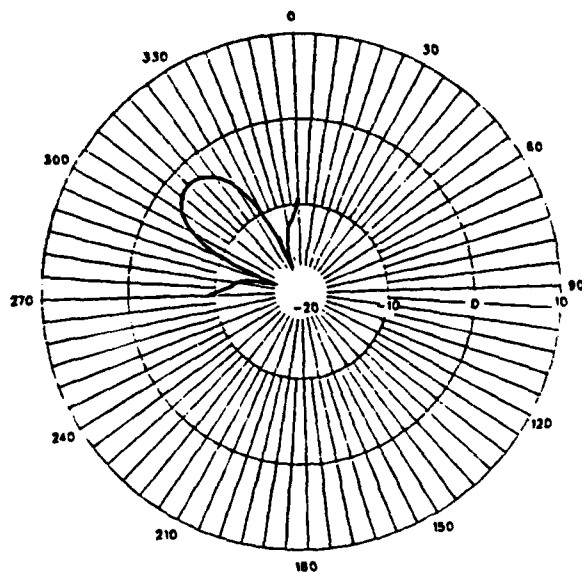
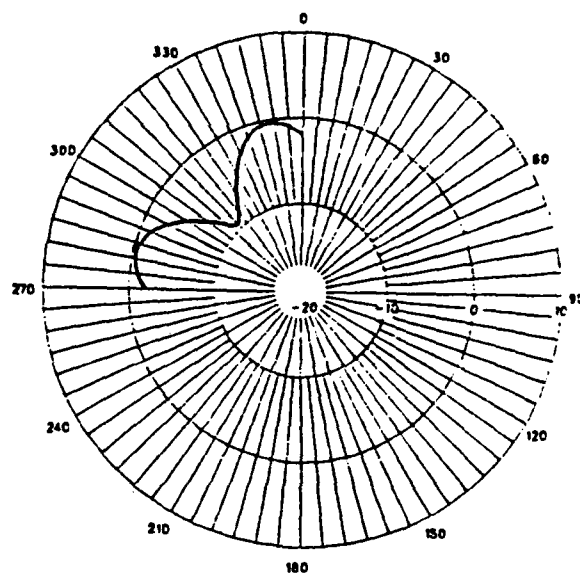


Figure 133. Azimuth patterns of the Army Highband DD antenna over perfect ground at 28 MHz

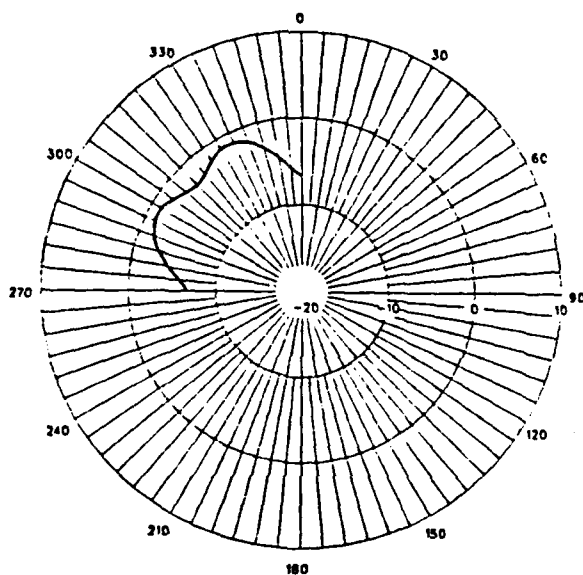
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

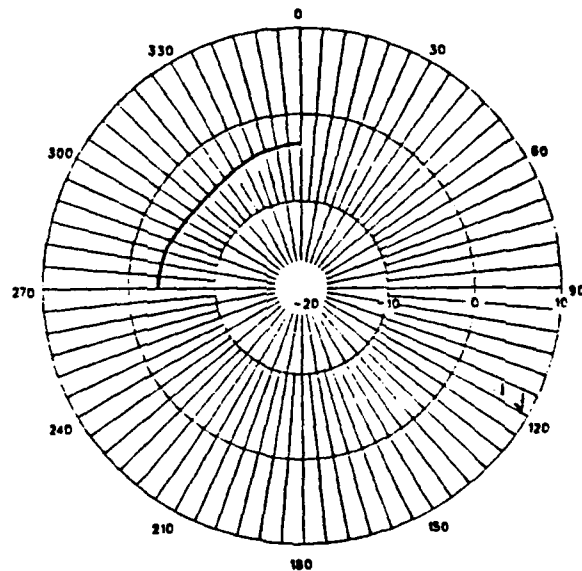


Figure 134. Azimuth patterns of the Army Highband DD antenna over fair ground at 28 MHz

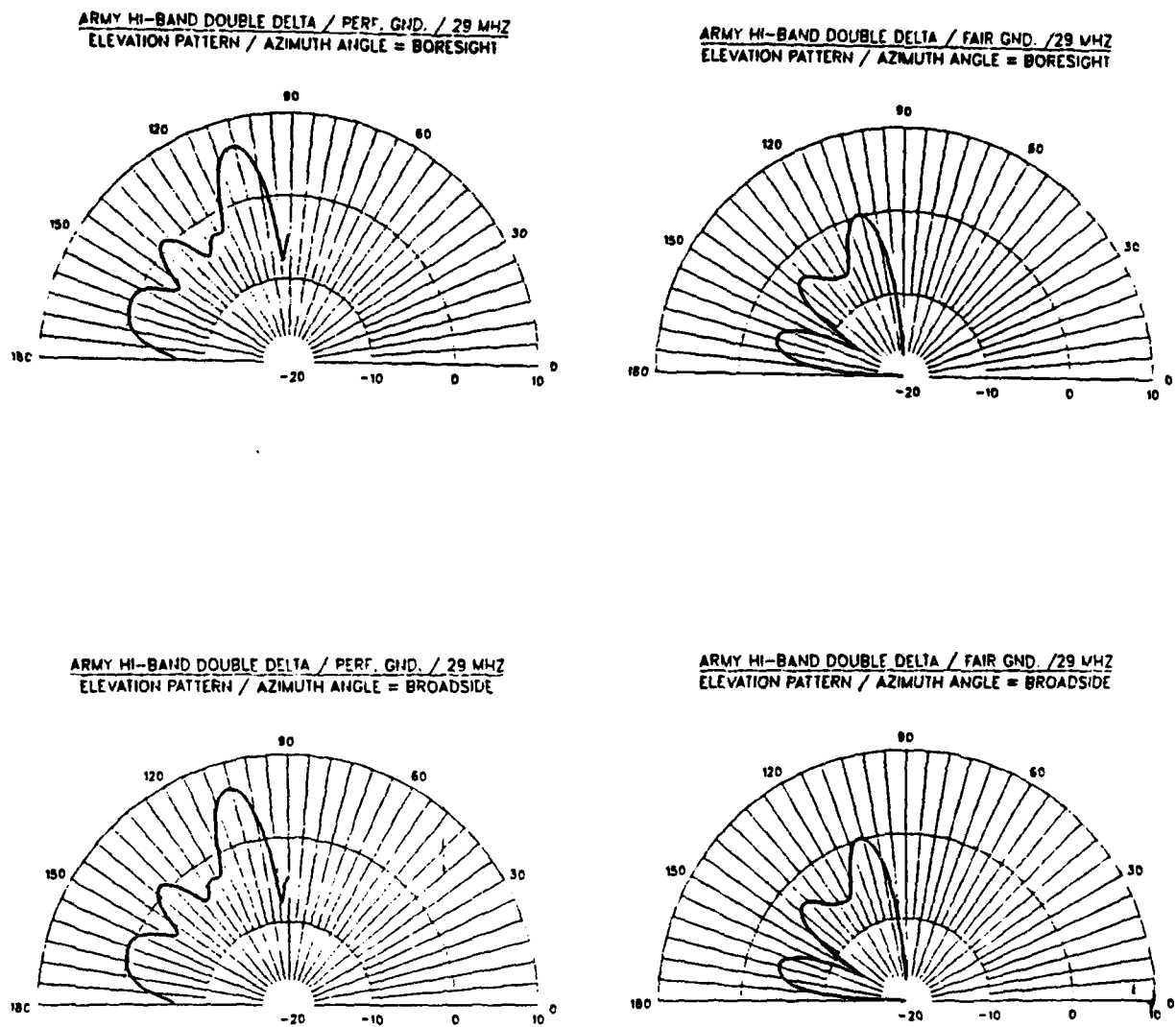


Figure 135. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 29 MHz

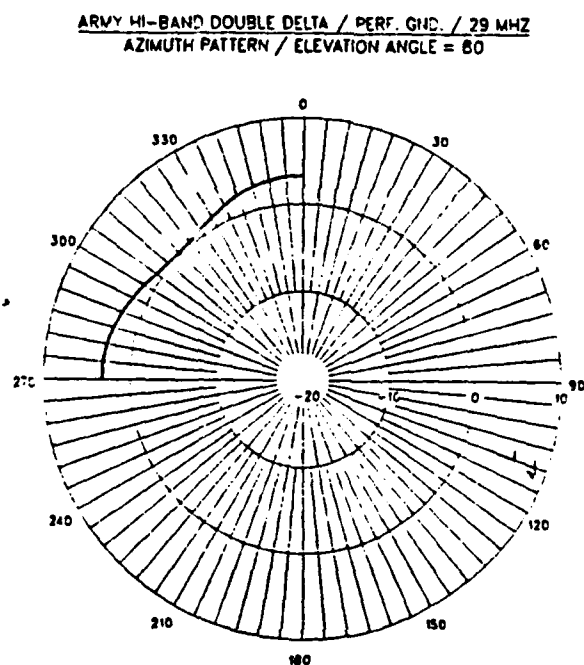
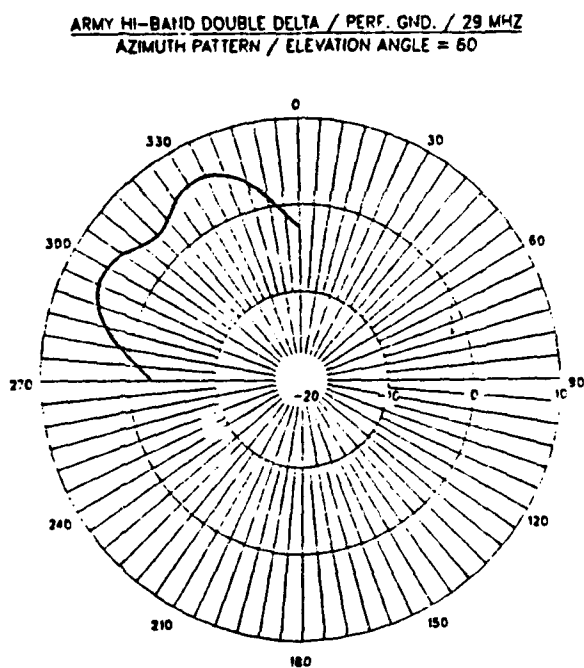
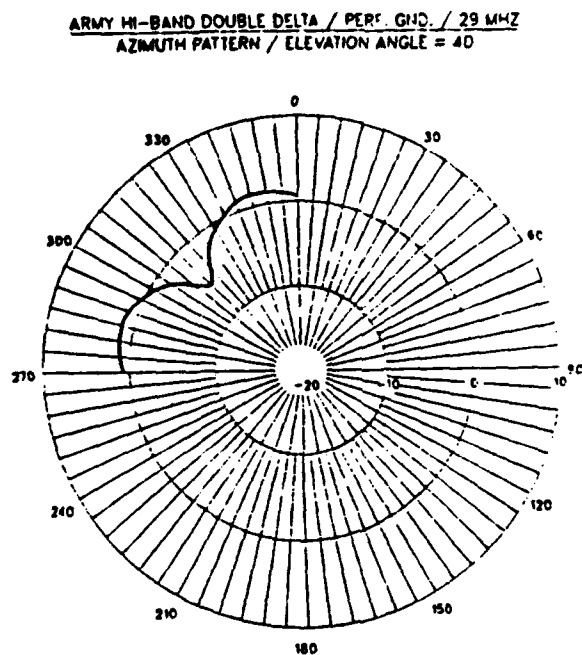
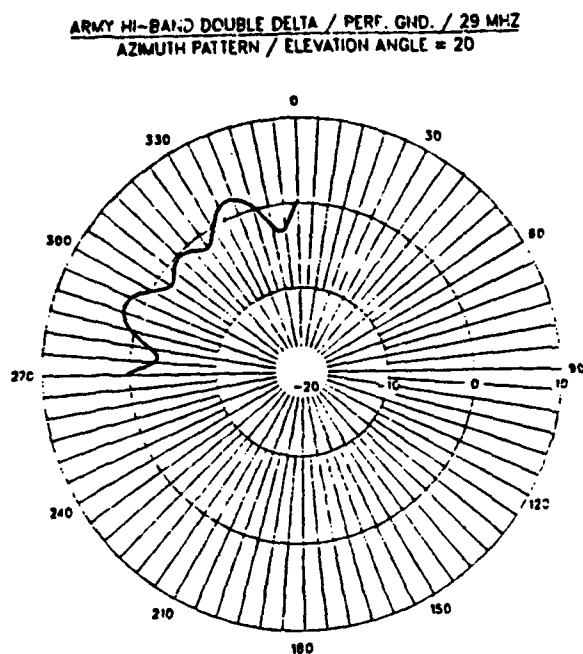
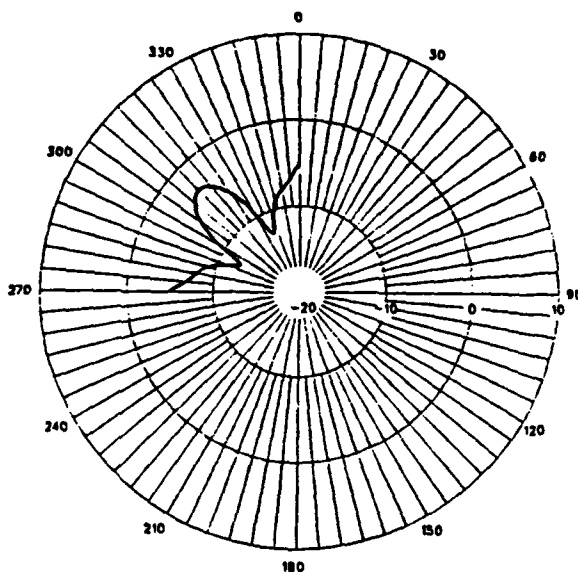
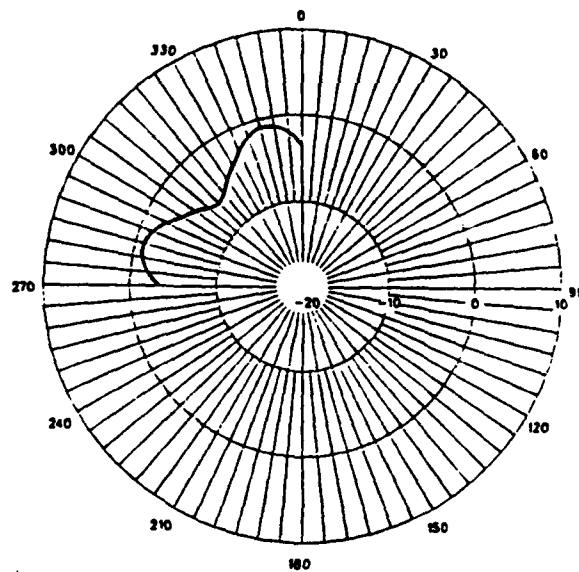


Figure 136. Azimuth patterns of the Army Highband DD antenna over perfect ground at 29 MHz

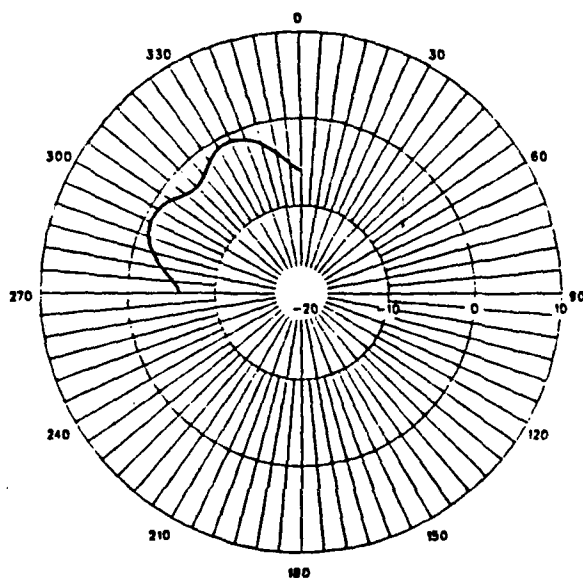
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 29 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 29 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 29 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 29 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

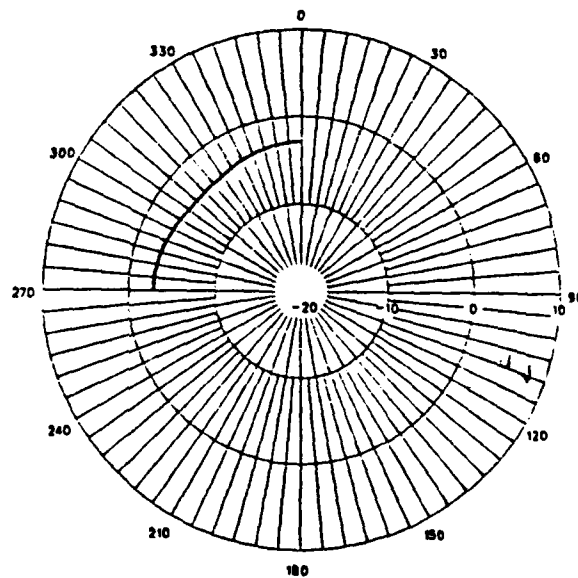
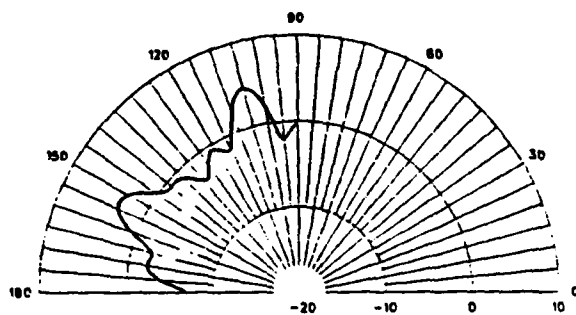
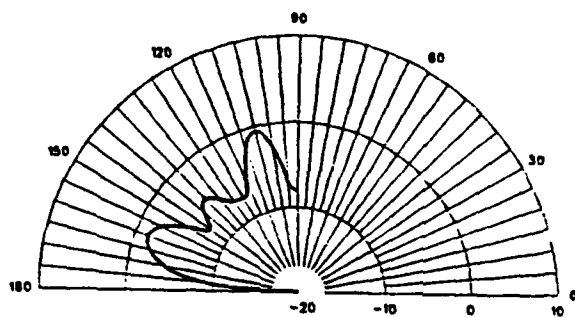


Figure 137. Azimuth patterns of the Army Highband DD antenna over fair ground at 29 MHz

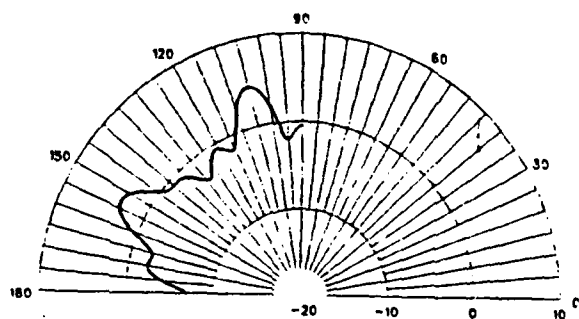
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 30 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 30 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 30 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 30 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

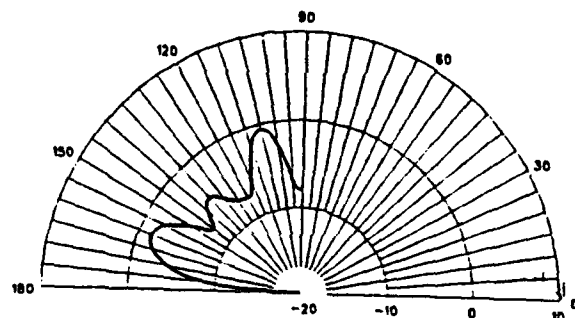
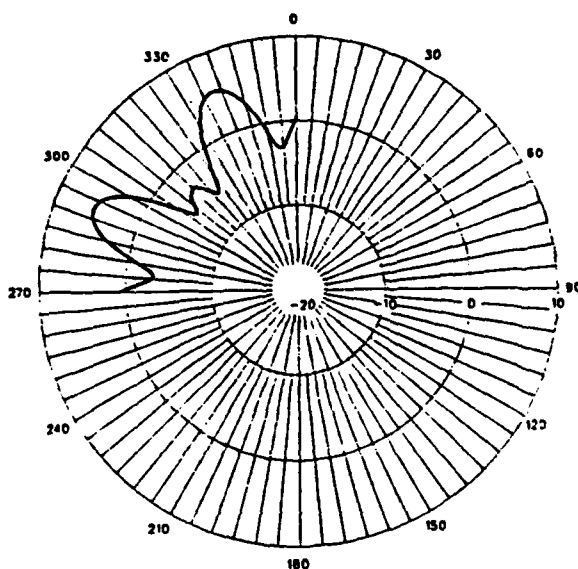
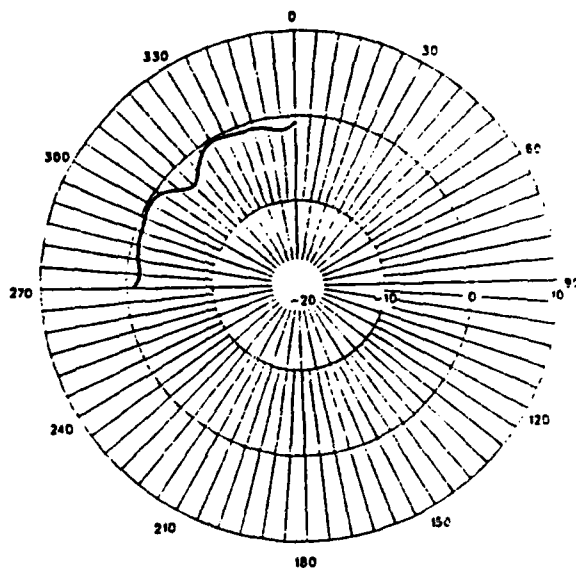


Figure 138. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 30 MHz

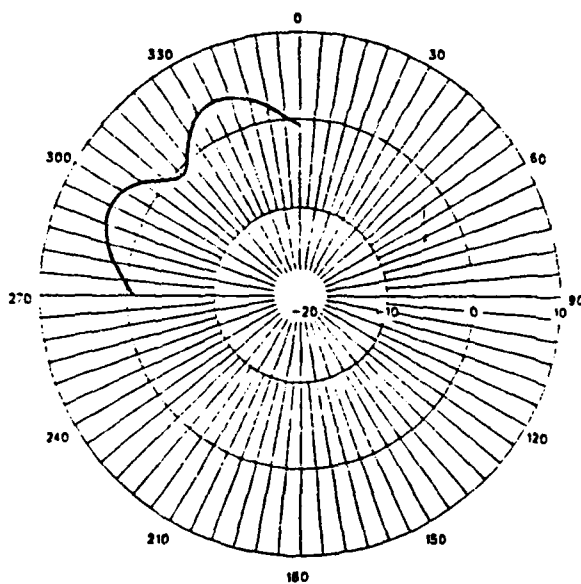
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

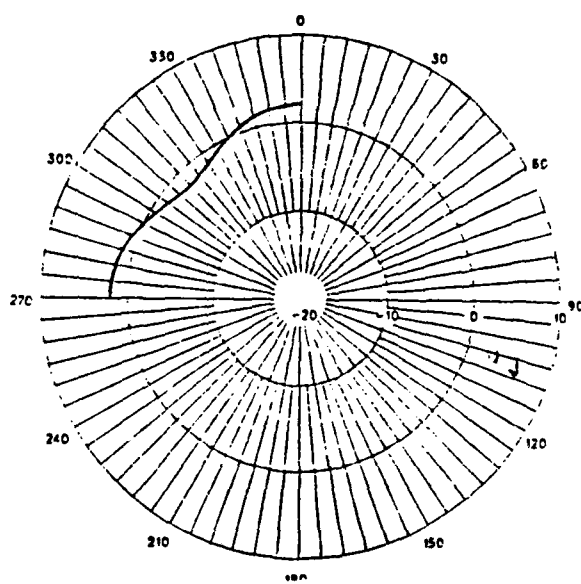
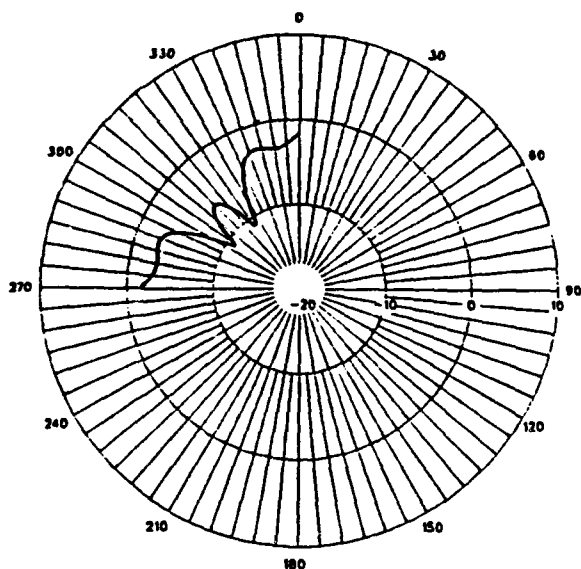
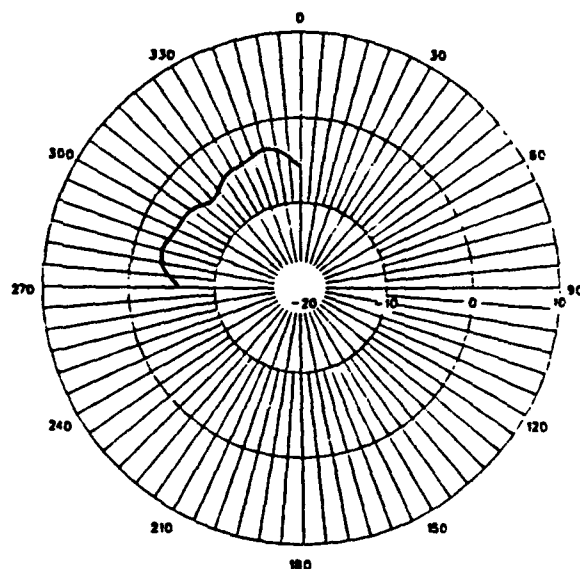


Figure 139. Azimuth patterns of the Army Highband DD antenna over perfect ground at 30 MHz

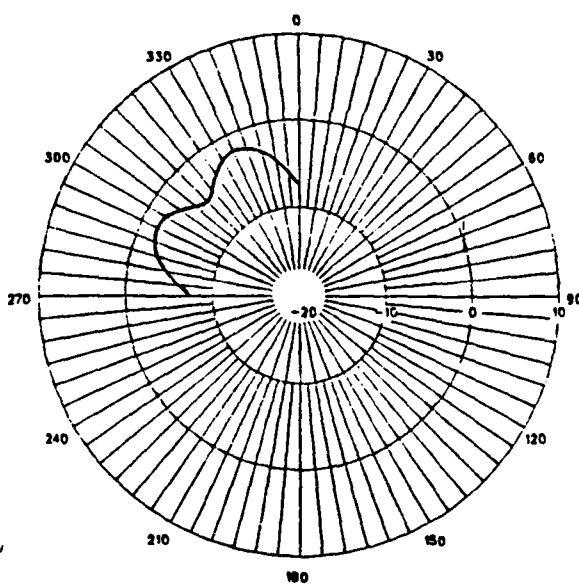
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

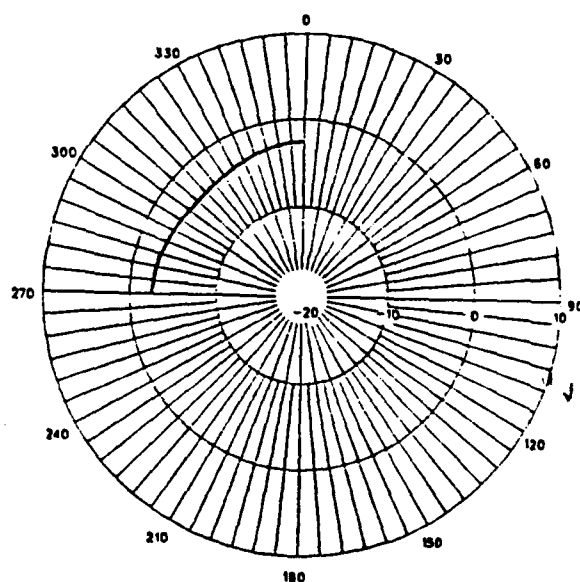


Figure 140. Azimuth patterns of the Army Highband DD antenna over fair ground at 30 MHz

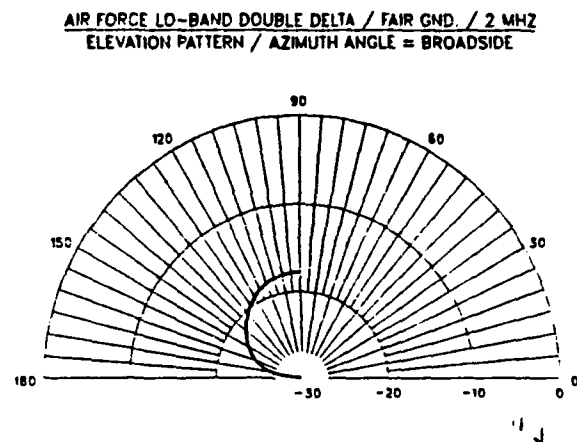
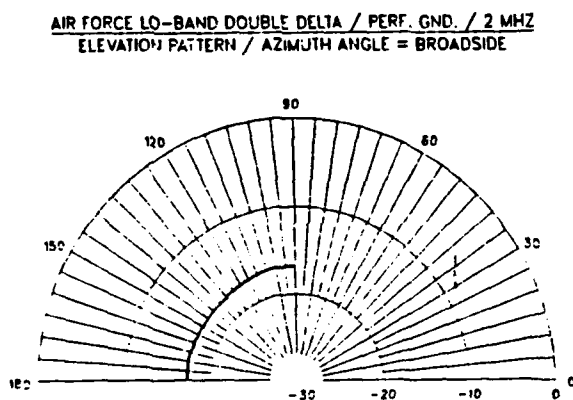
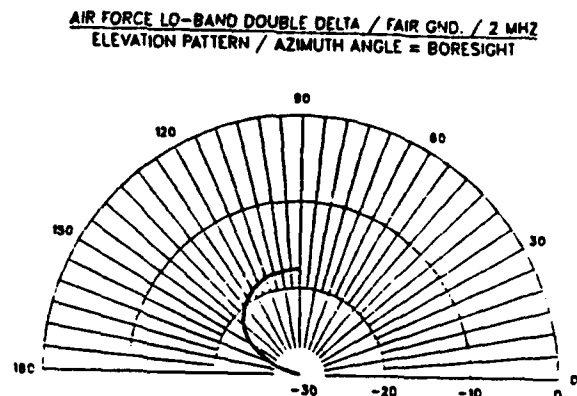
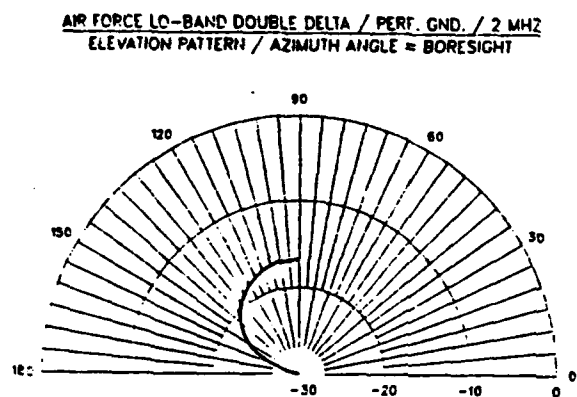
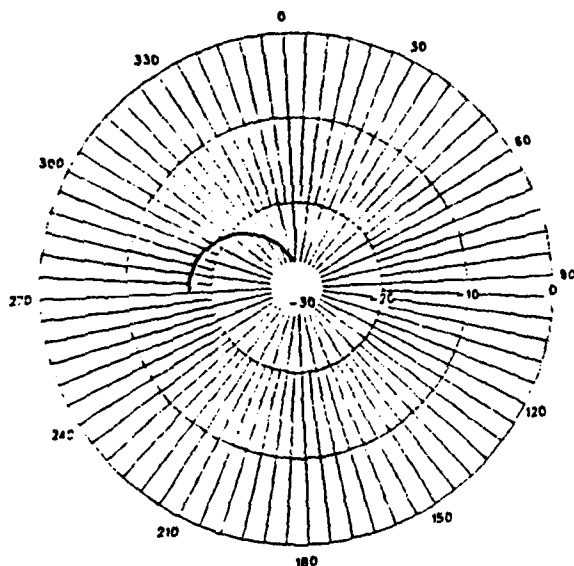
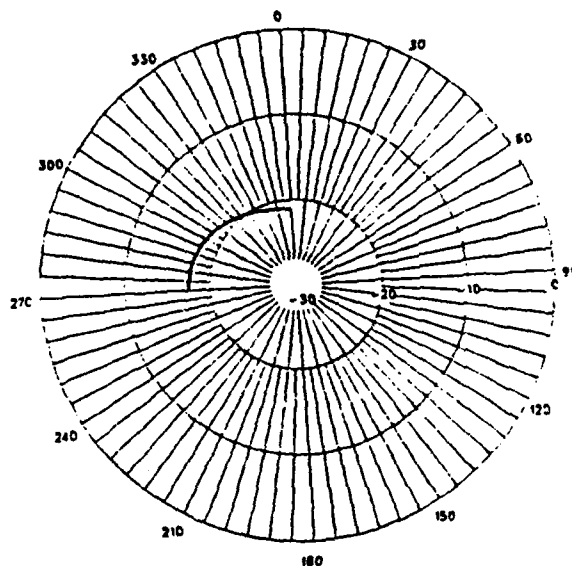


Figure 141. Elevation patterns of the Air Force Lowband DD antenna over perfect ground and fair ground at 2 MHz

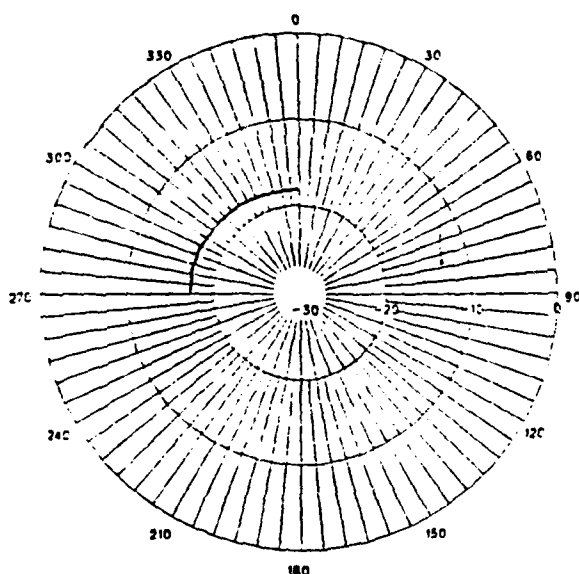
AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

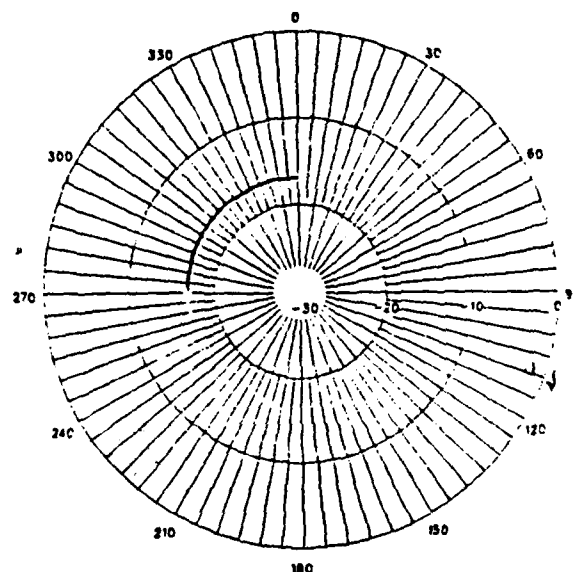
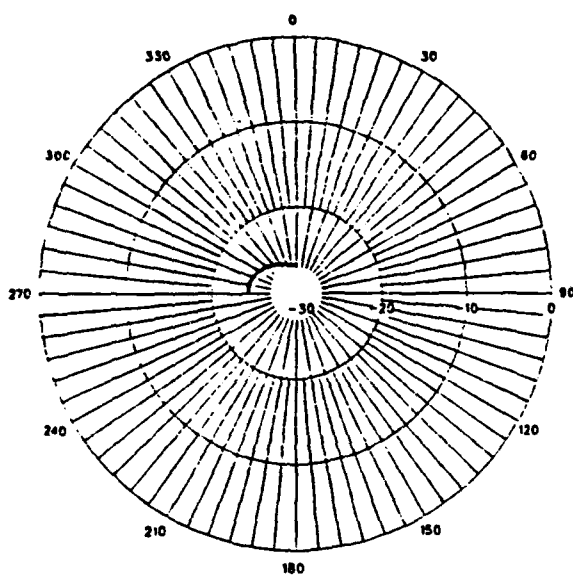
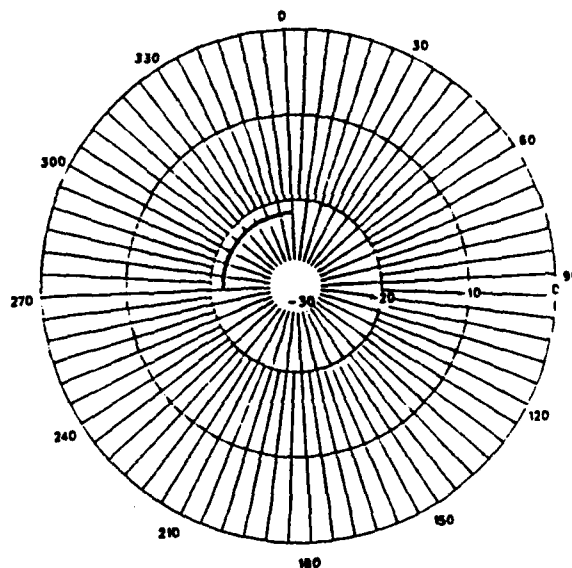


Figure 142. Azimuth patterns of the Air Force Lowband DD antenna over perfect ground at 2 MHz

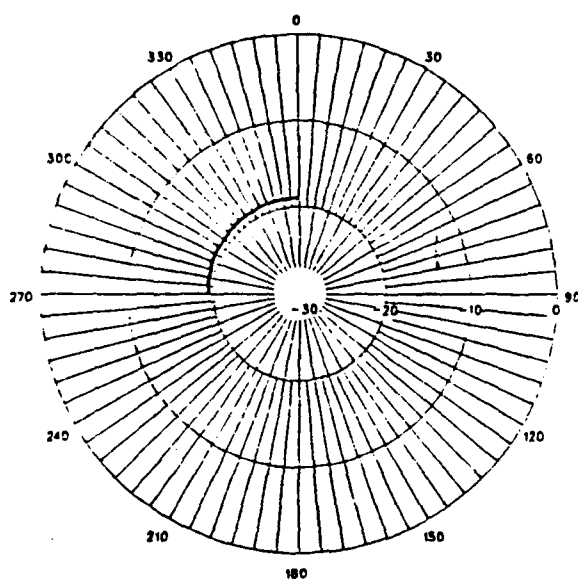
AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

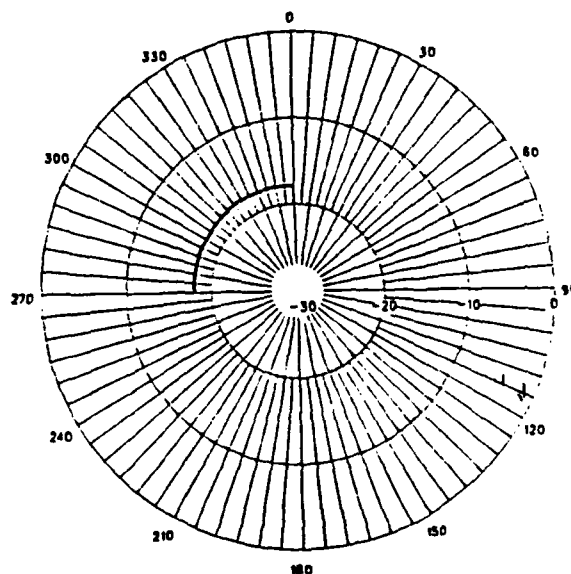


Figure 143. Azimuth patterns of the Air Force Lowband DD antenna over fair ground at 2 MHz

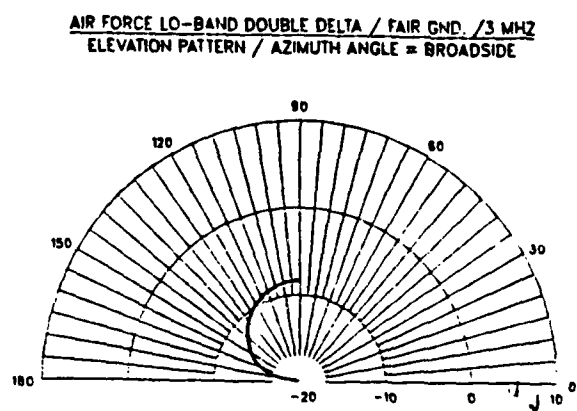
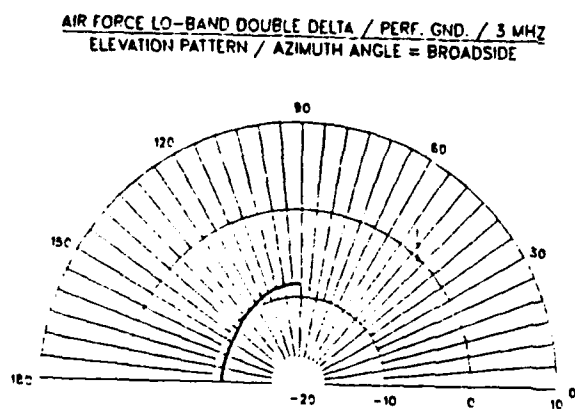
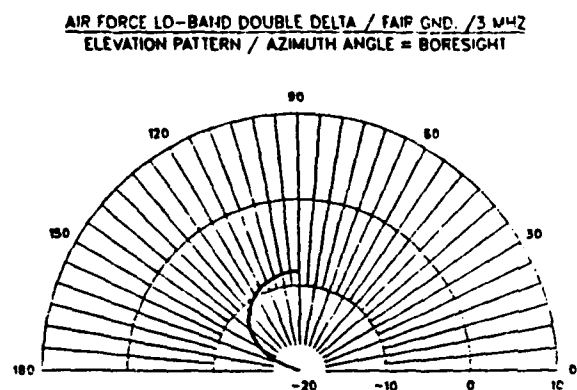
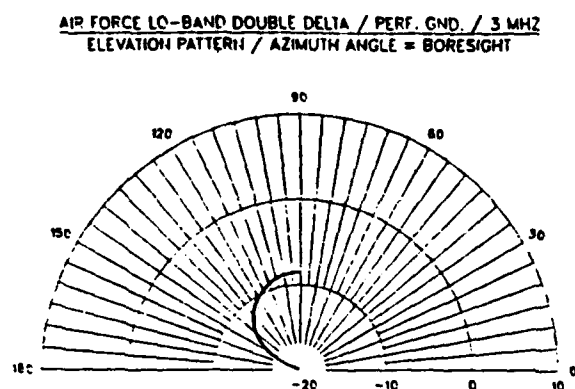
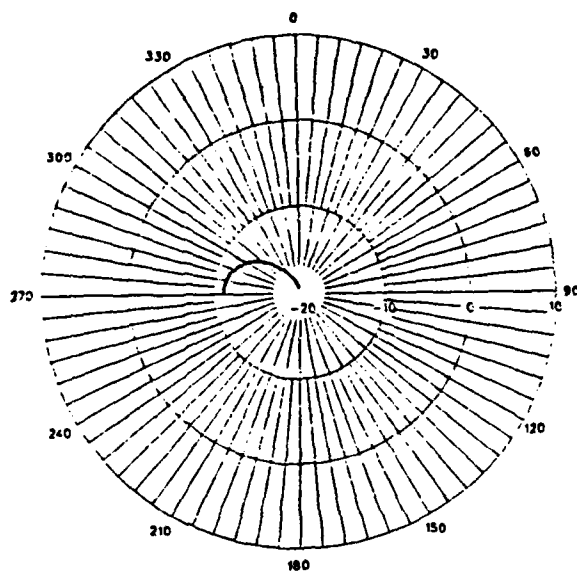
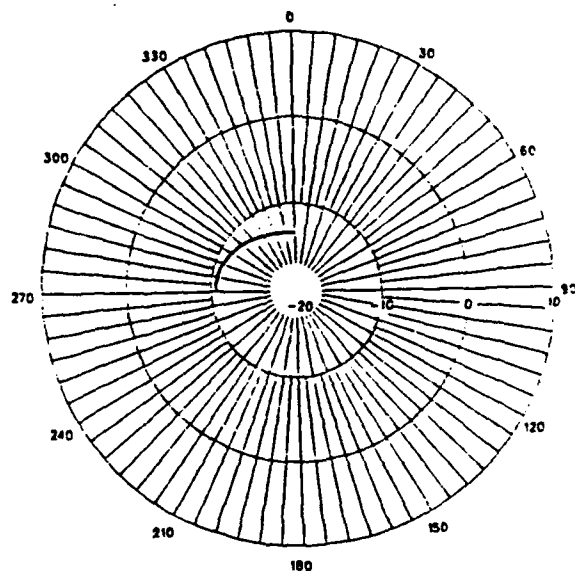


Figure 144. Elevation patterns of the Air Force Lowband DD antenna over perfect ground and fair ground at 3 MHz

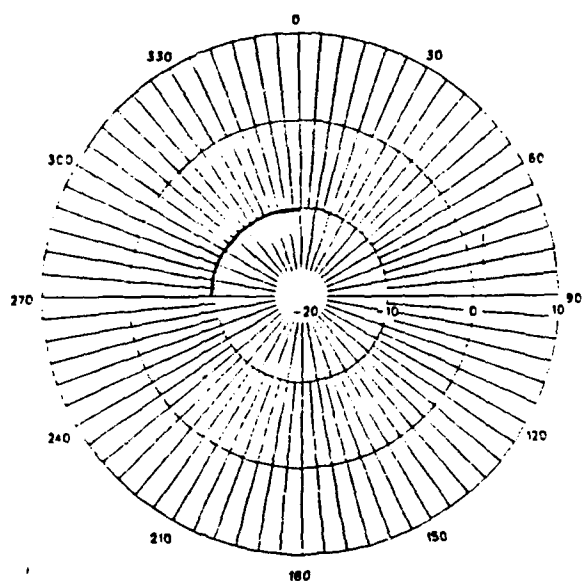
AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

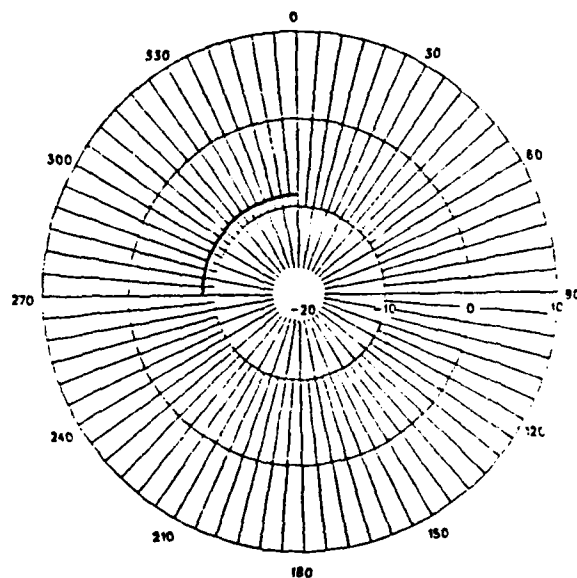
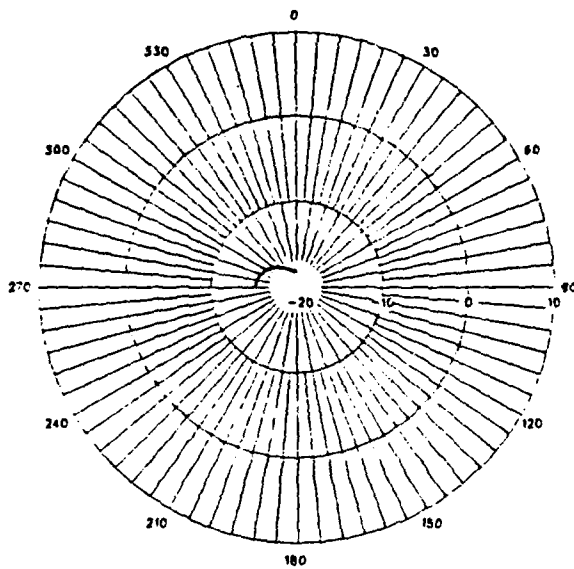
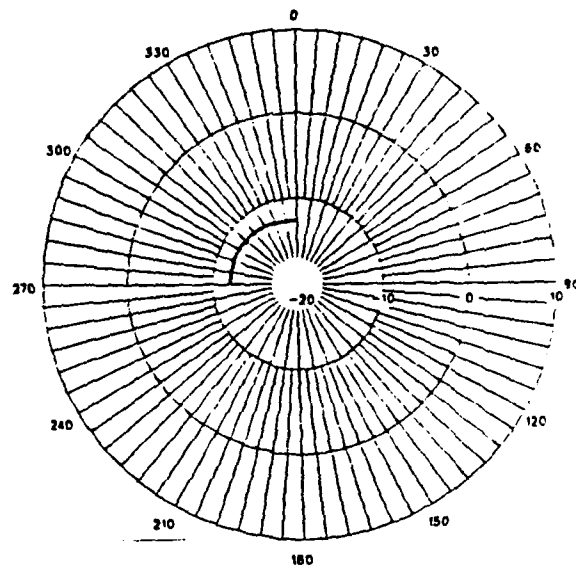


Figure 145. Azimuth patterns of the Air Force Lowband DD antenna over perfect ground at 3 MHz

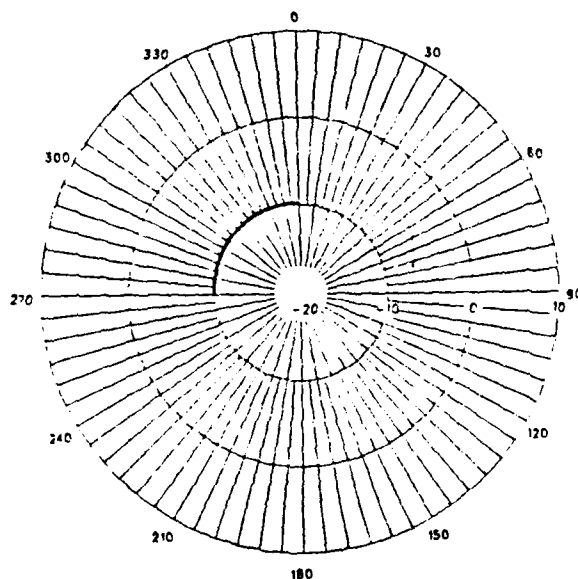
AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

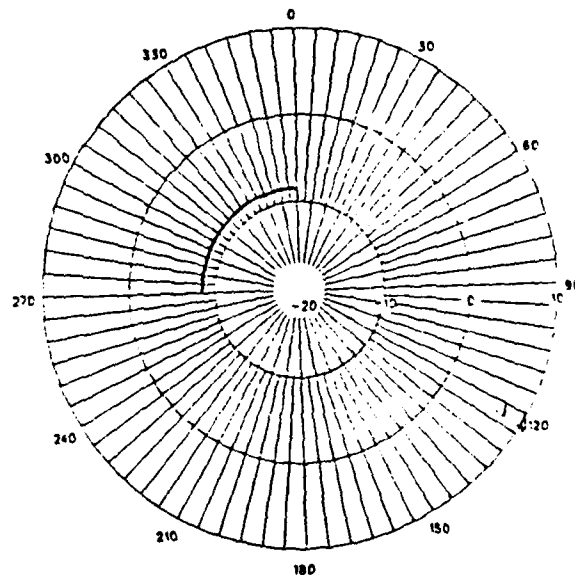
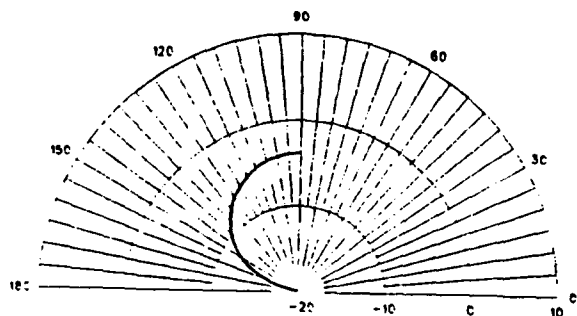
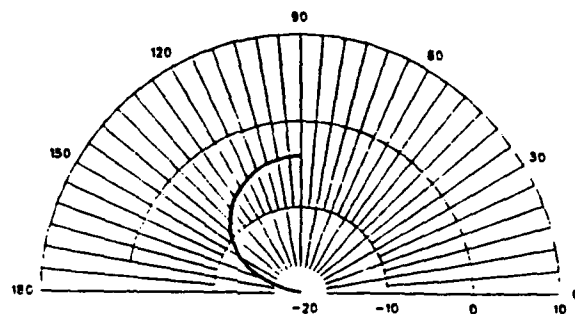


Figure 146. Azimuth patterns of the Air Force Lowband DD antenna over fair ground at 3 MHz

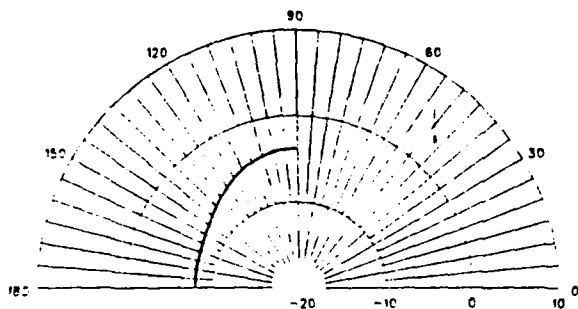
AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 4 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 4 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 4 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 4 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

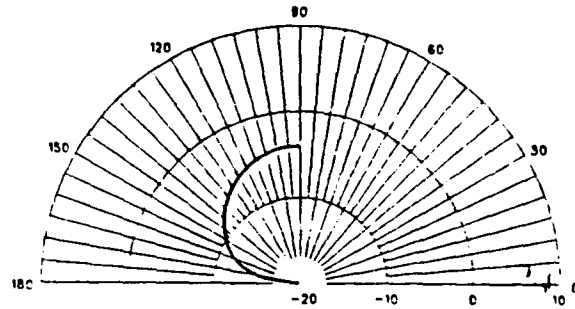
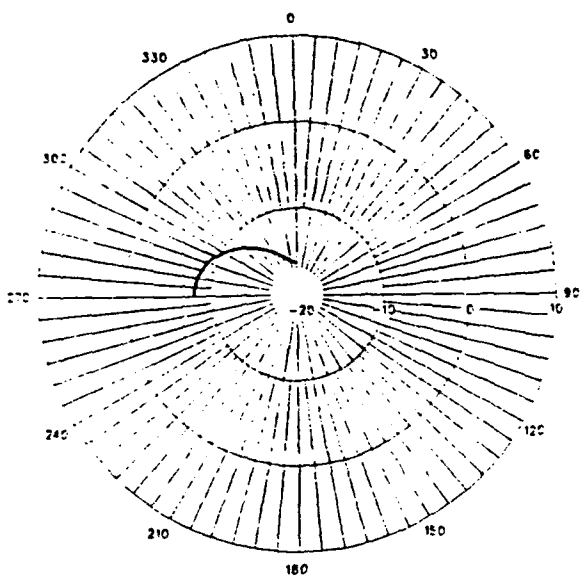
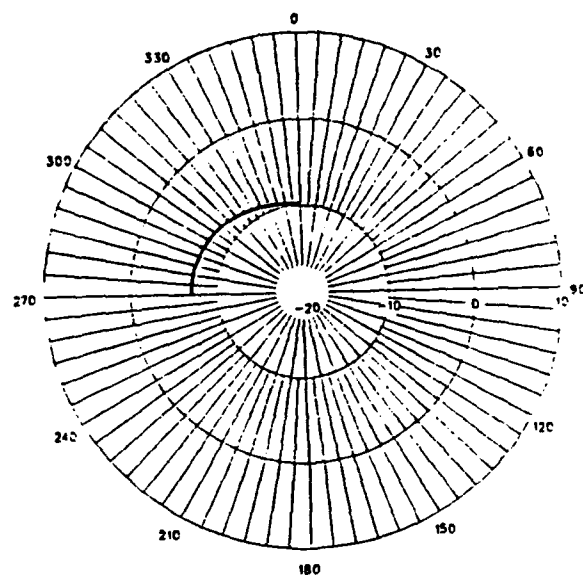


Figure 147. Elevation patterns of the Air Force Lowband DD antenna over perfect ground and fair ground at 4 MHz

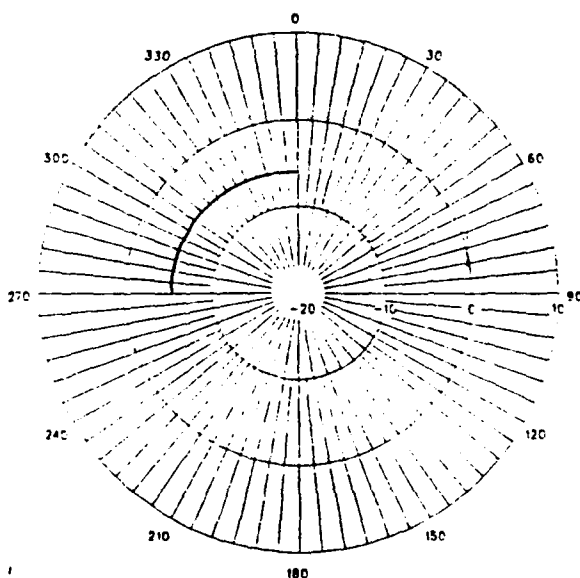
AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

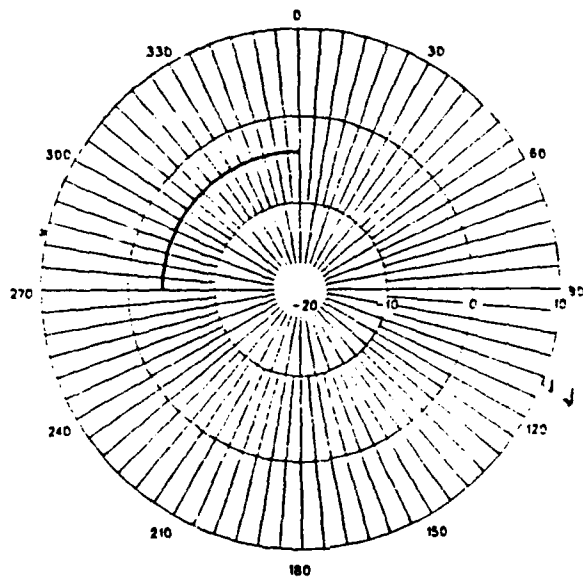
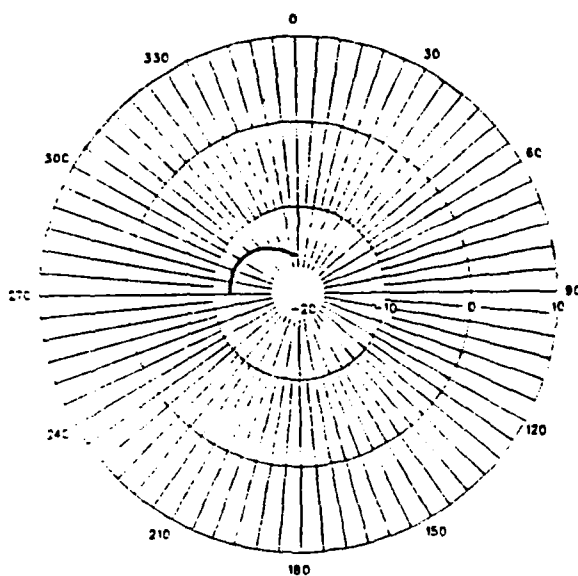
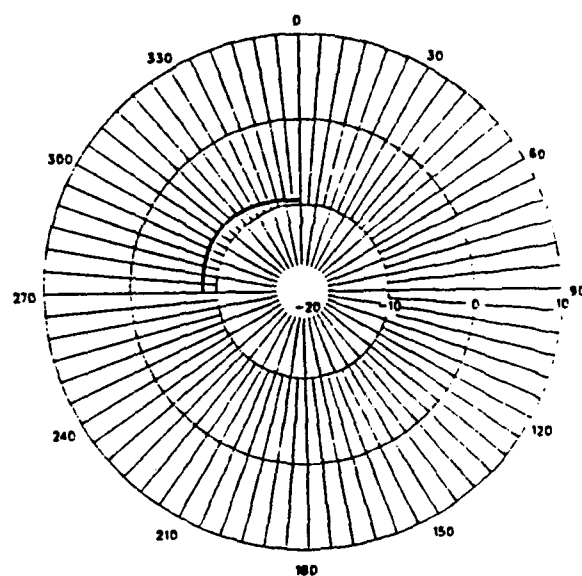


Figure 148. Azimuth patterns of the Air Force Lowband DD antenna over perfect ground at 4 MHz

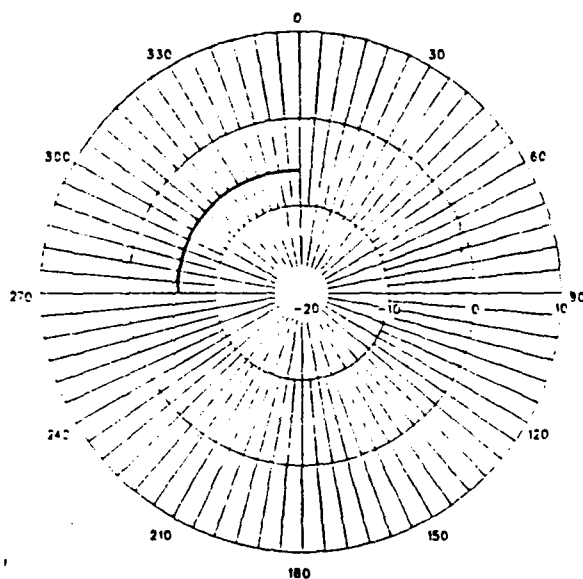
AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

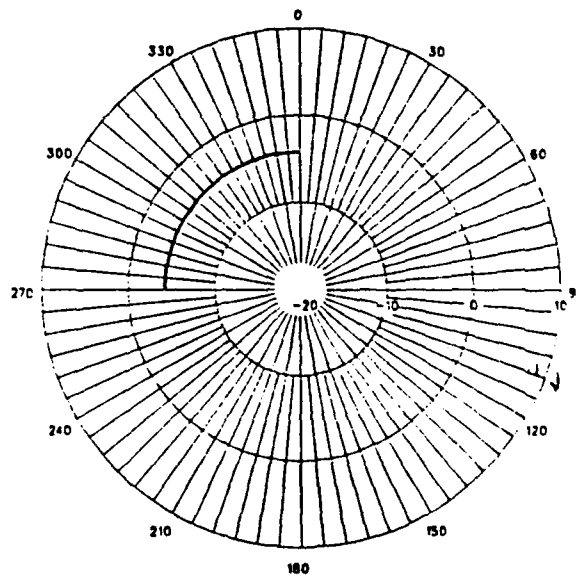
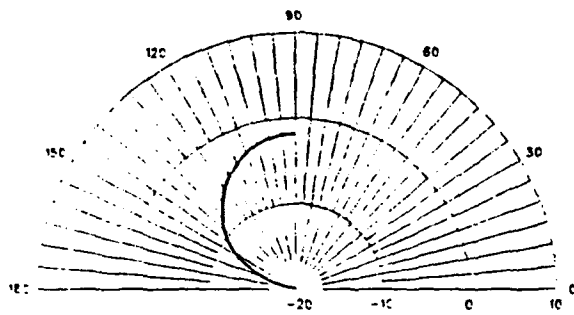
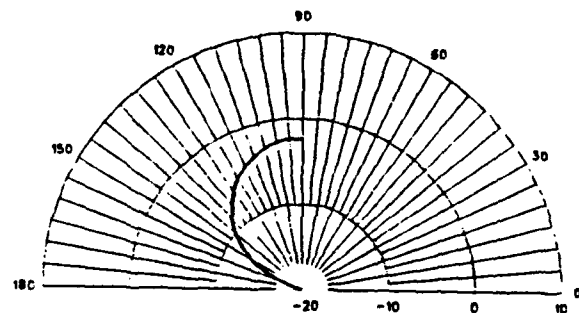


Figure 149. Azimuth patterns of the Air Force Lowband DD antenna over fair ground at 4 MHz

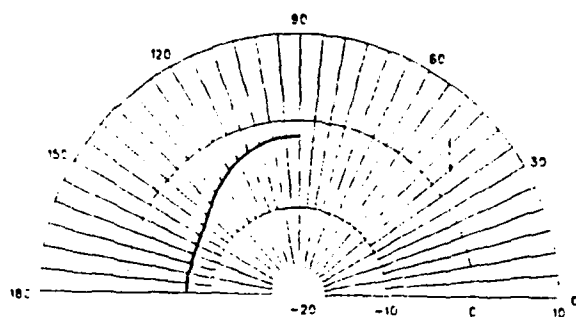
AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 5 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 5 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 5 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 5 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

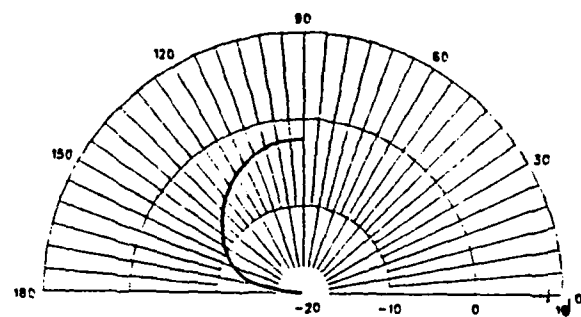
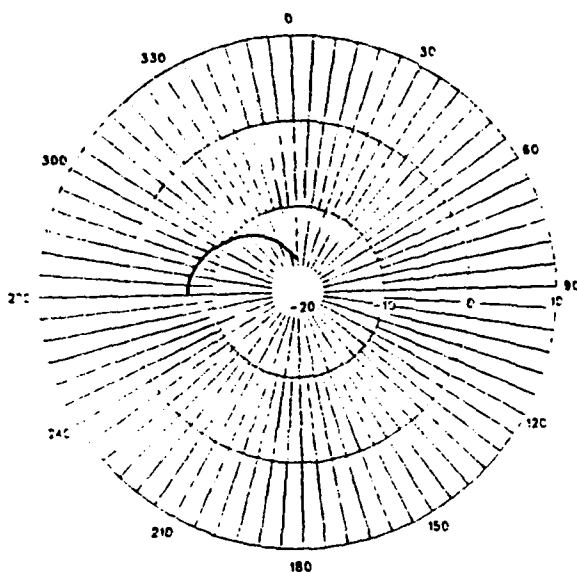
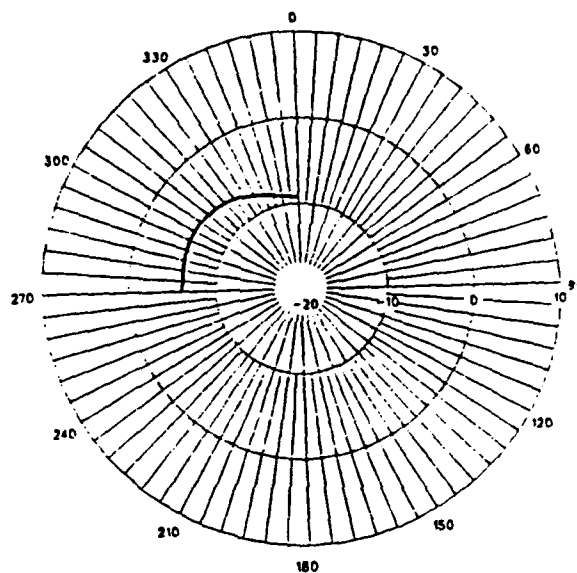


Figure 150. Elevation patterns of the Air Force Lowband DD antenna over perfect ground and fair ground at 5 MHz

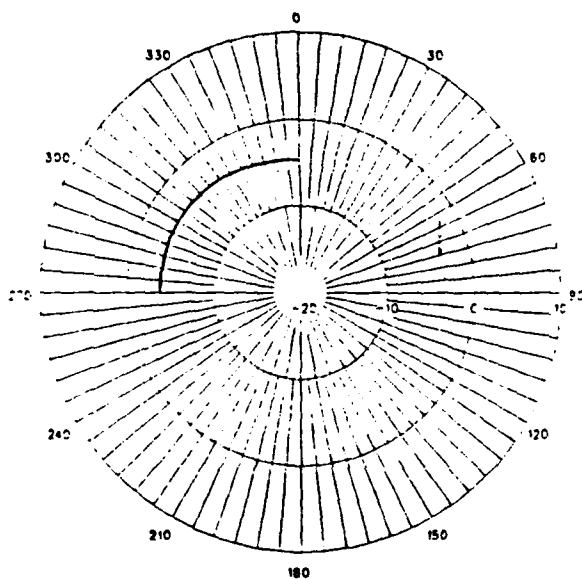
AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

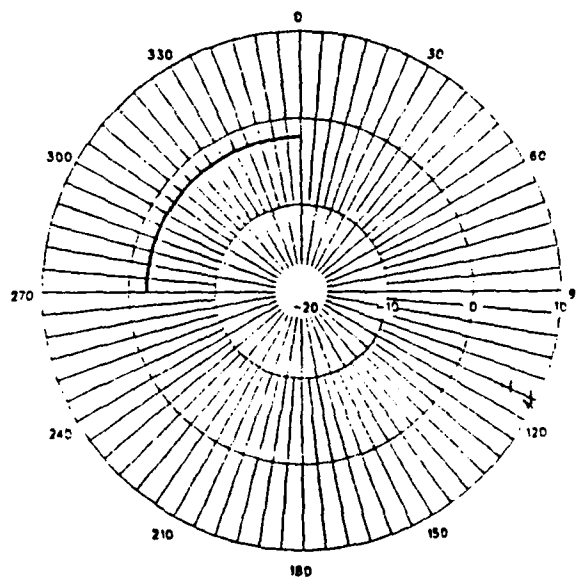
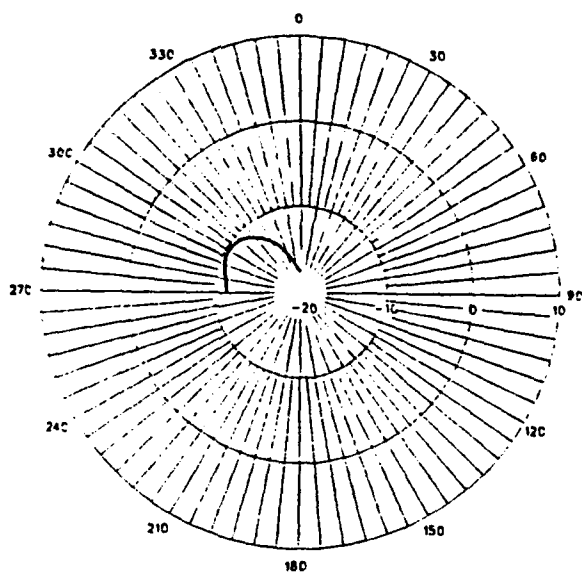
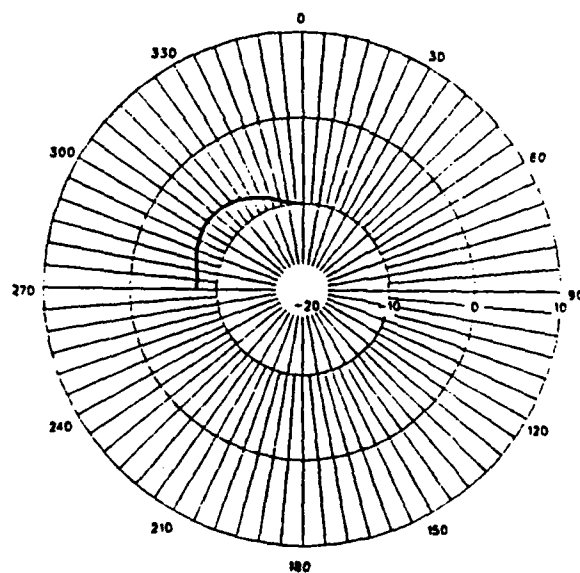


Figure 151. Azimuth patterns of the Air Force Lowband DD antenna over perfect ground at 5 MHz

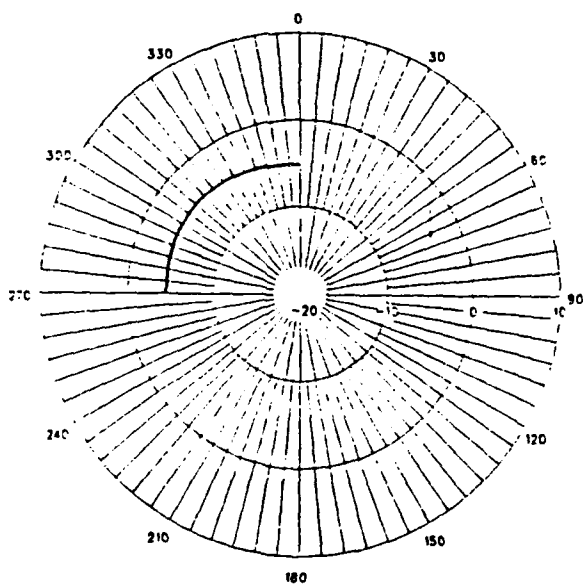
AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

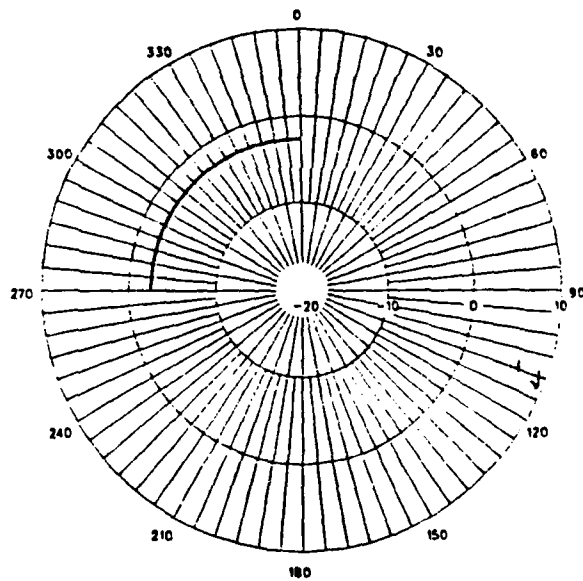


Figure 152. Azimuth patterns of the Air Force Lowband DD antenna over fair ground at 5 MHz

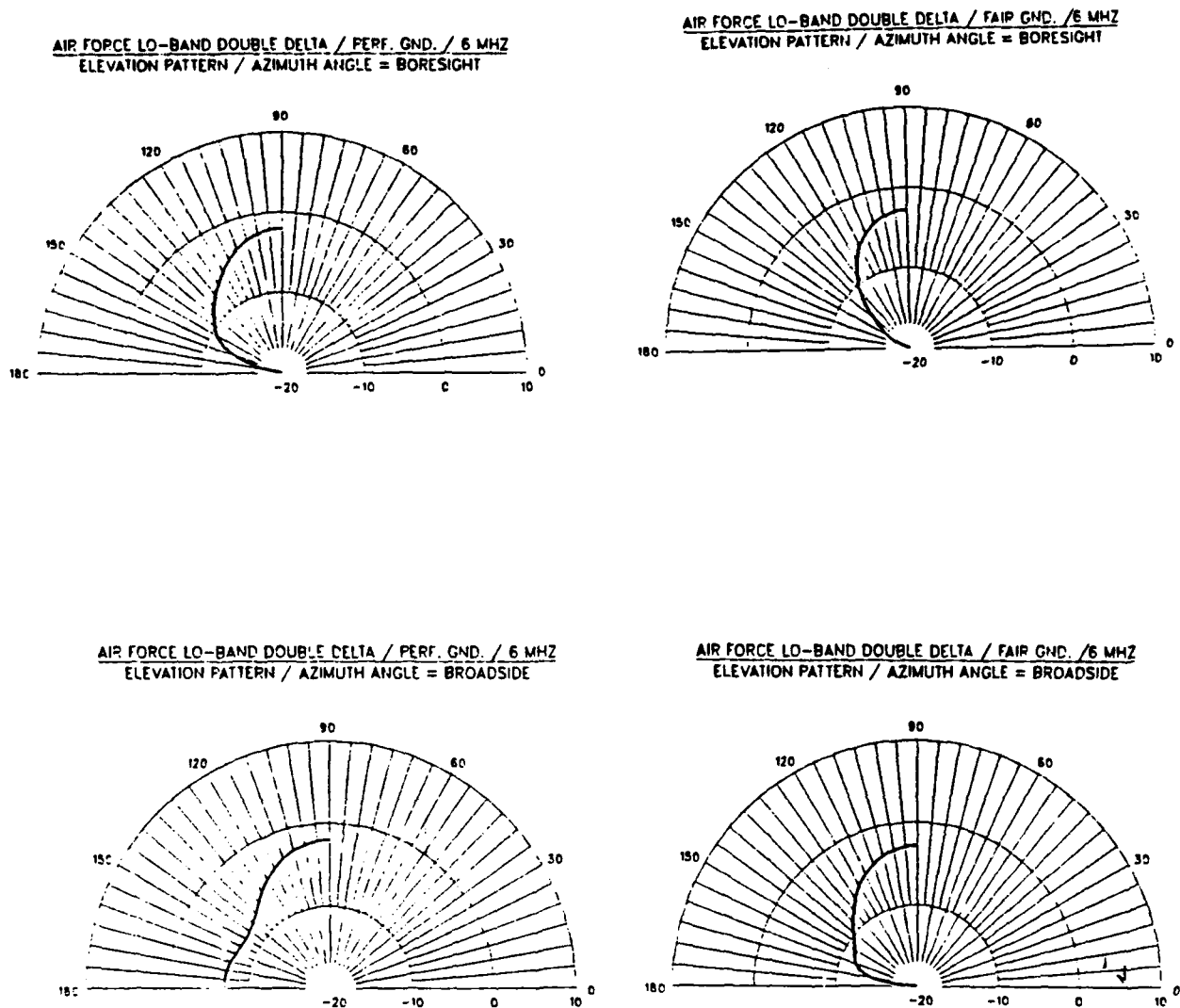
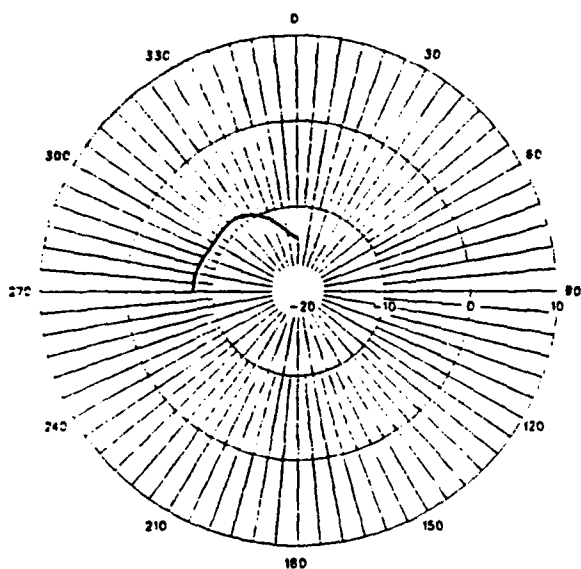
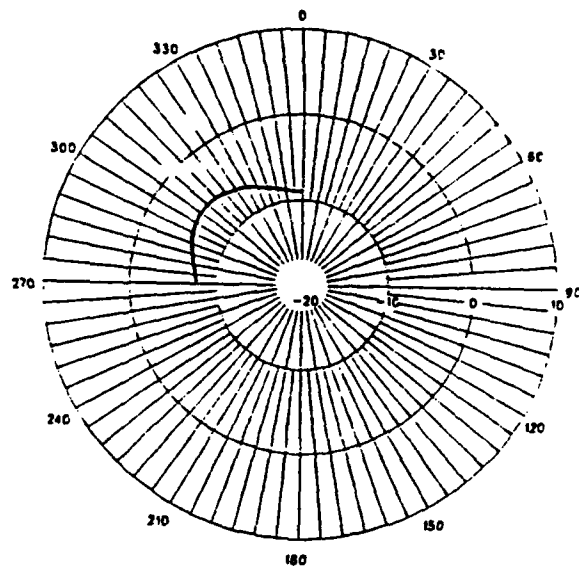


Figure 153. Elevation patterns of the Air Force Lowband DD antenna over perfect ground and fair ground at 6 MHz

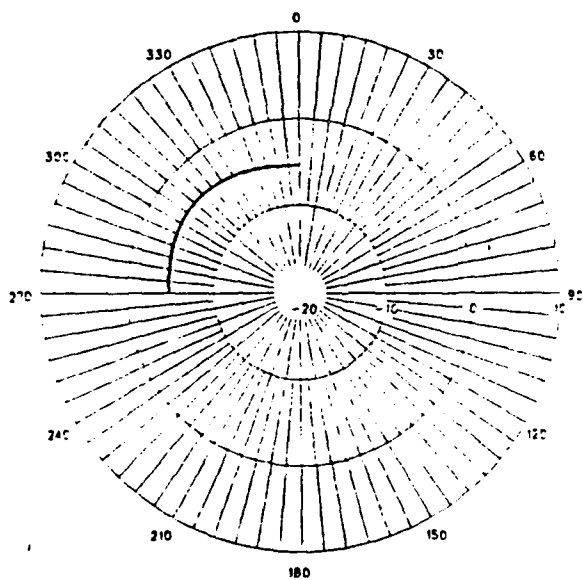
AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

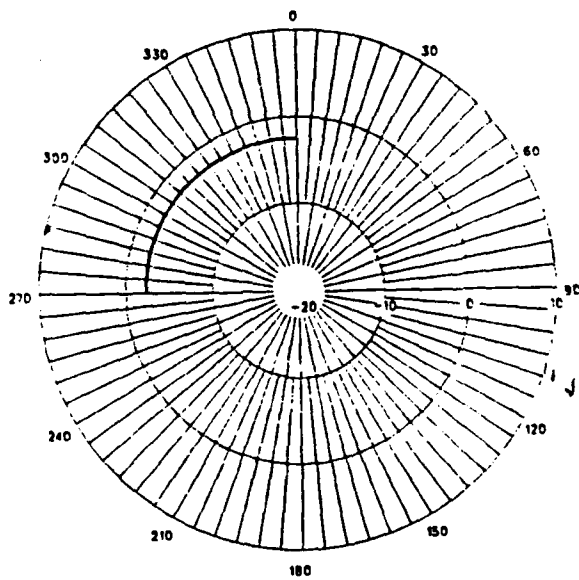
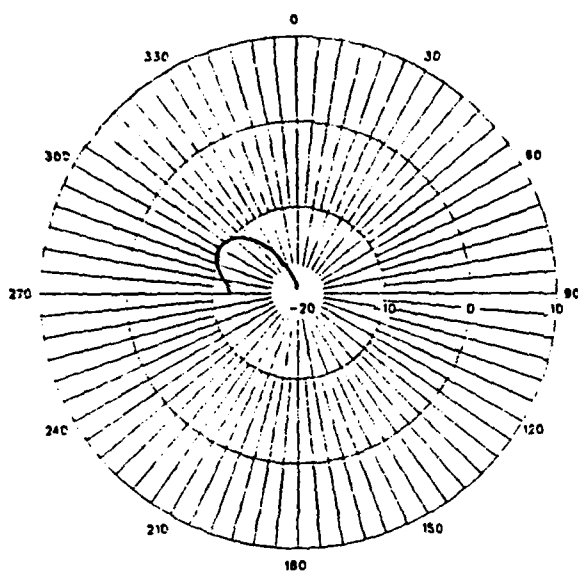
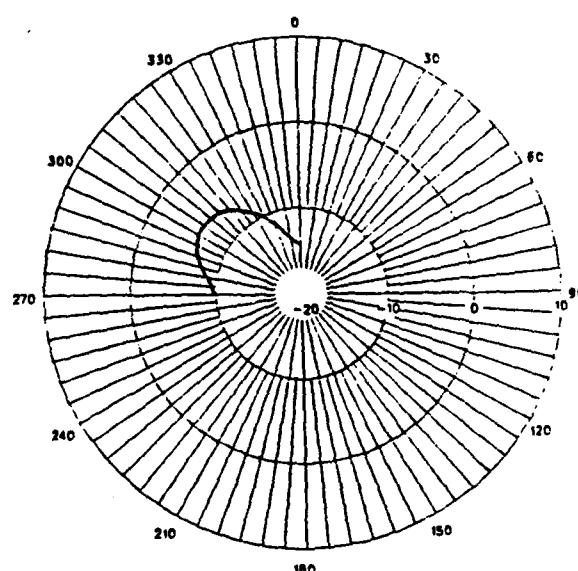


Figure 154. Azimuth patterns of the Air Force Lowband DD antenna over perfect ground at 6 MHz

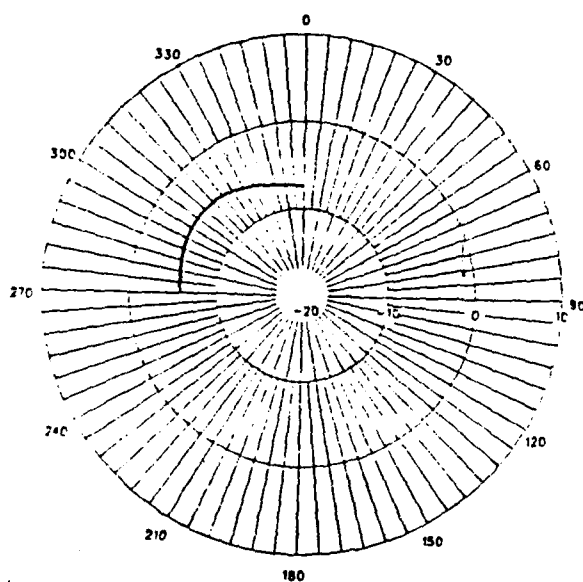
AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

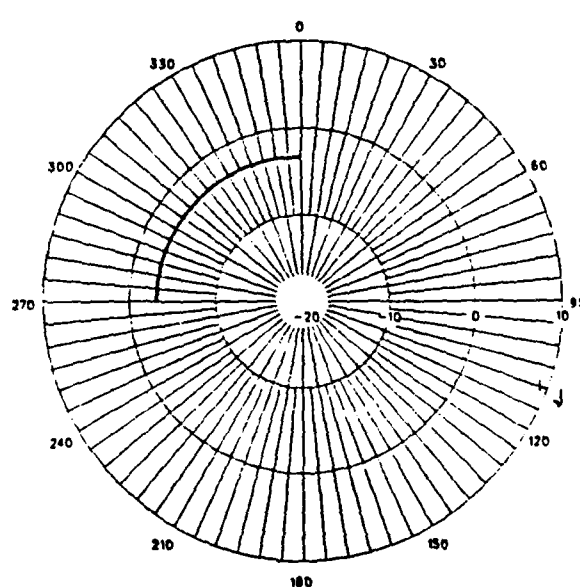
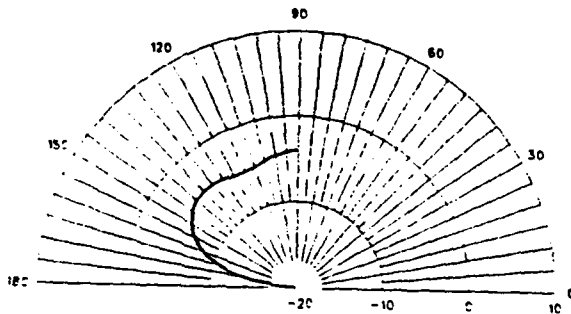
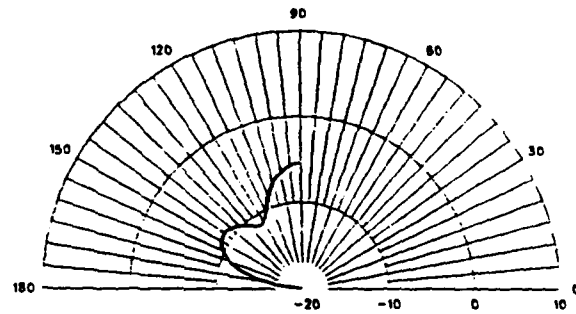


Figure 155. Azimuth patterns of the Air Force Lowband DD antenna over fair ground at 6 MHz

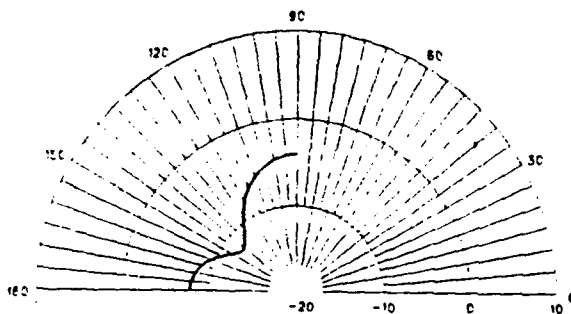
AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 7 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 7 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 7 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 7 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

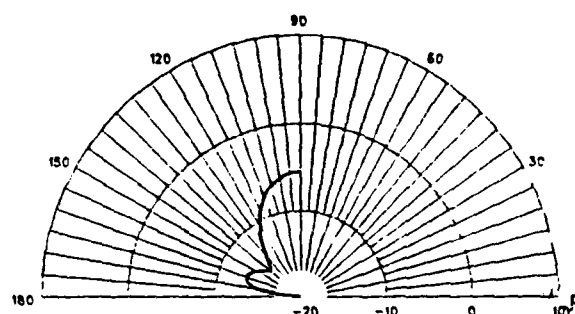
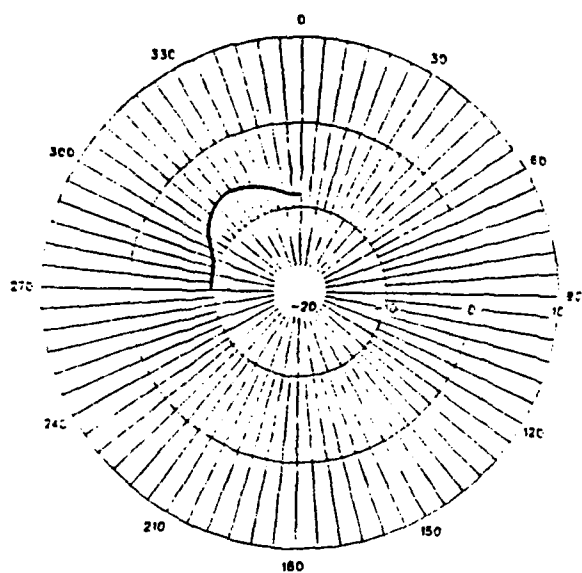
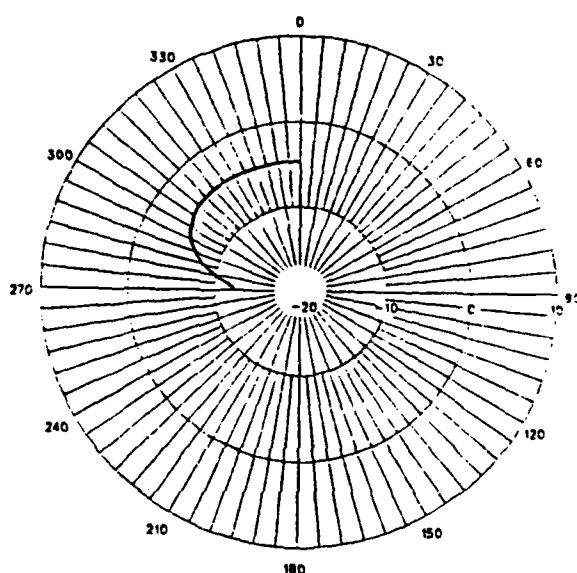


Figure 156. Elevation patterns of the Air Force Lowband DD antenna over perfect ground and fair ground at 7 MHz

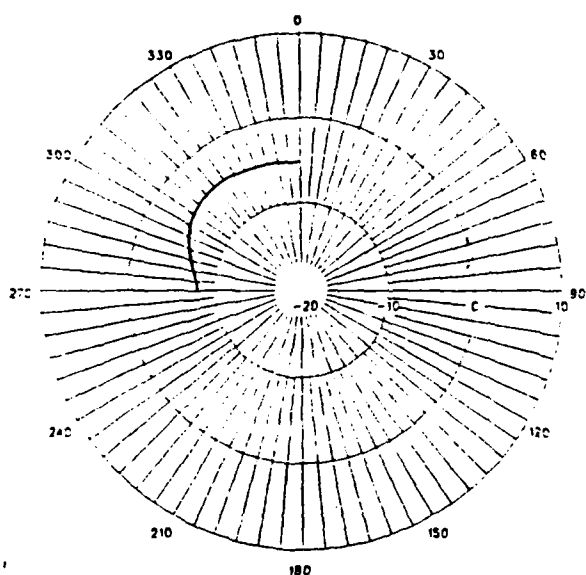
AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

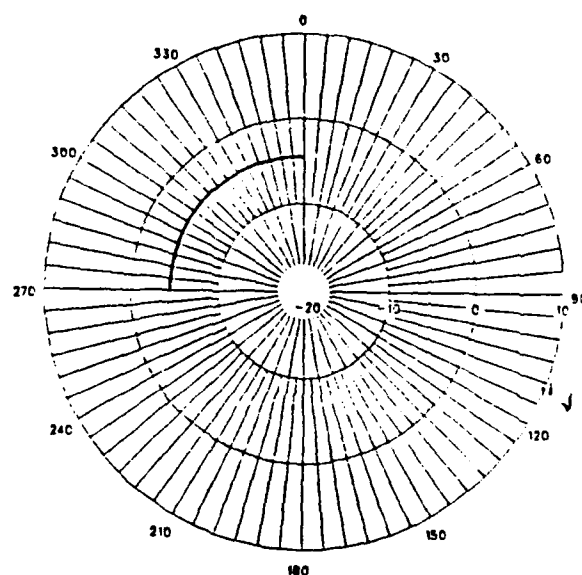
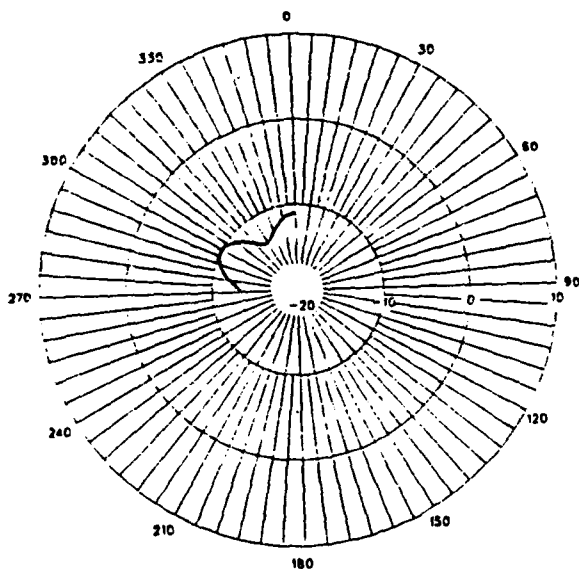
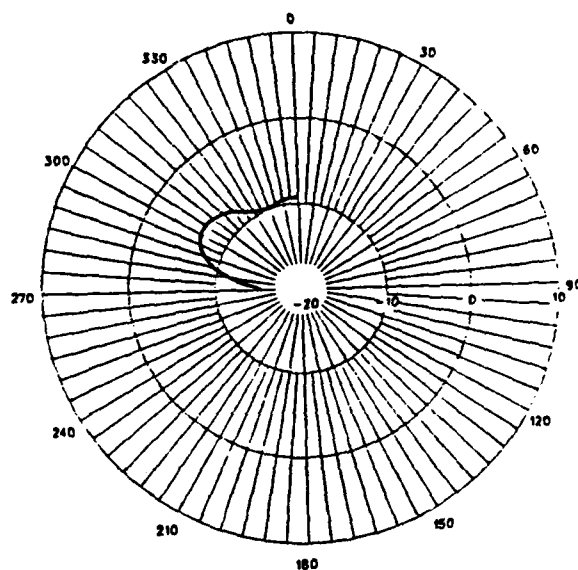


Figure 157. Azimuth patterns of the Air Force Lowband DD antenna over perfect ground at 7 MHz

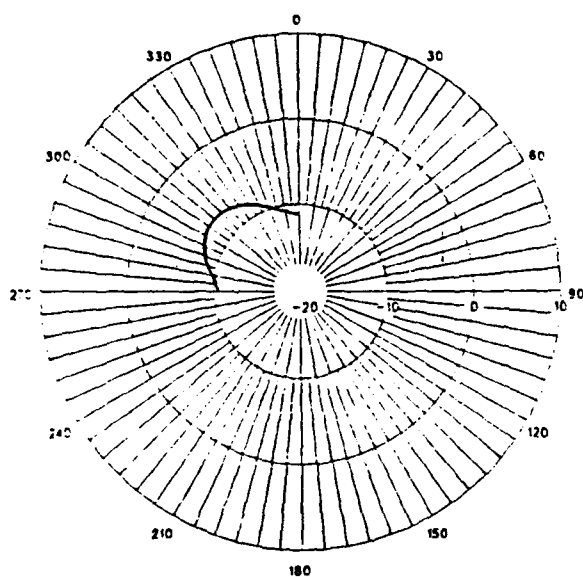
AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

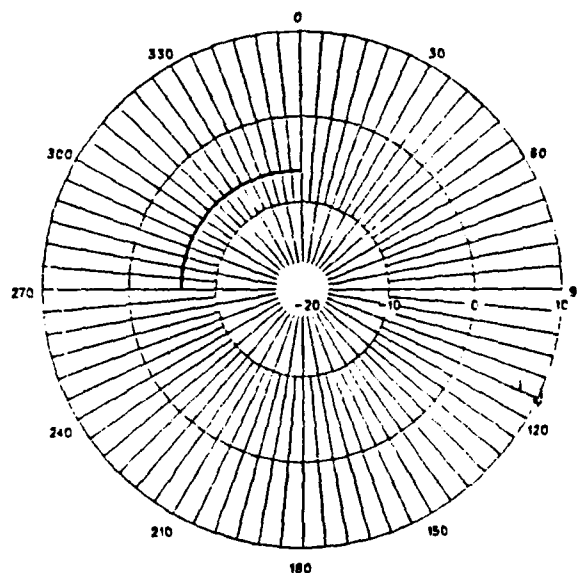


Figure 158. Azimuth patterns of the Air Force Lowband DD antenna over fair ground at 7 MHz

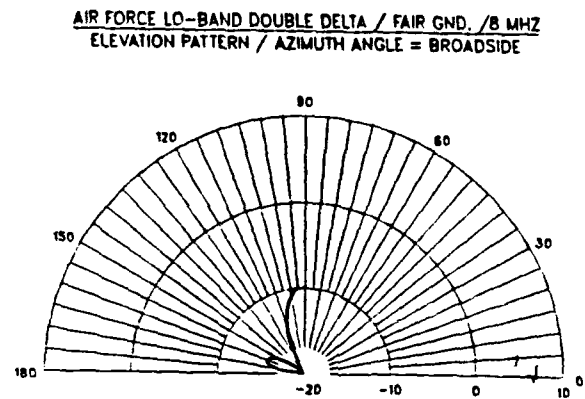
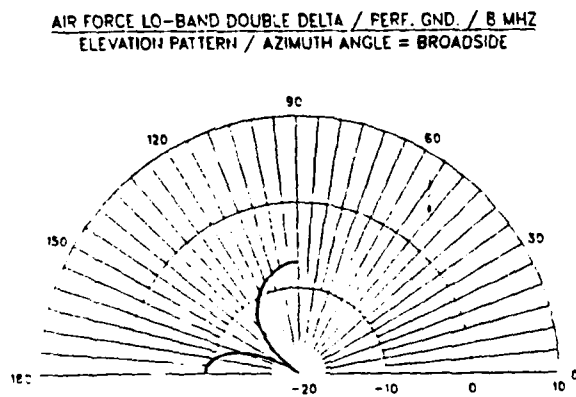
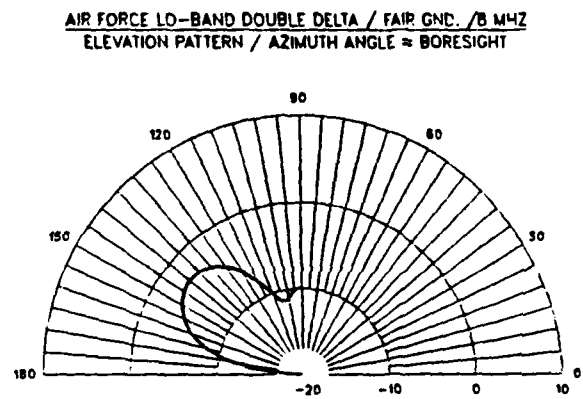
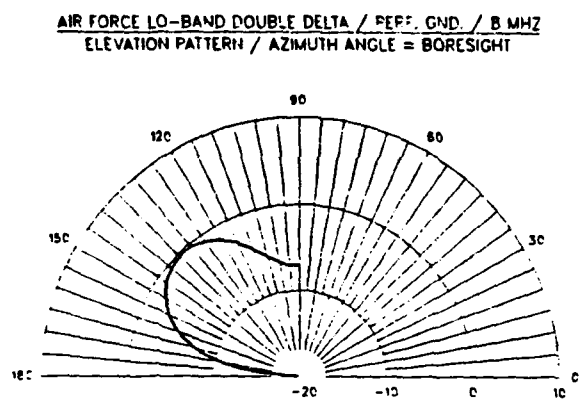
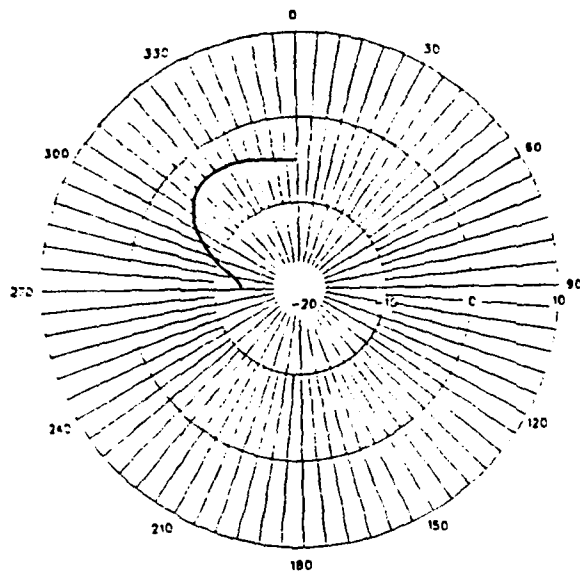
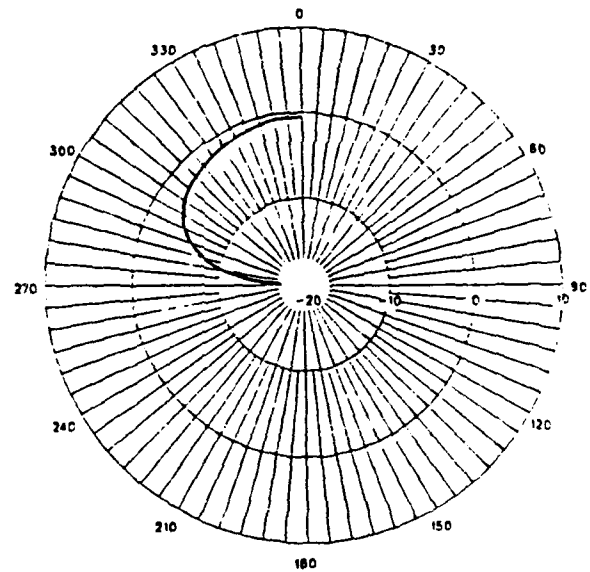


Figure 159. Elevation patterns of the Air Force Lowband DD antenna over perfect ground and fair ground at 8 MHz

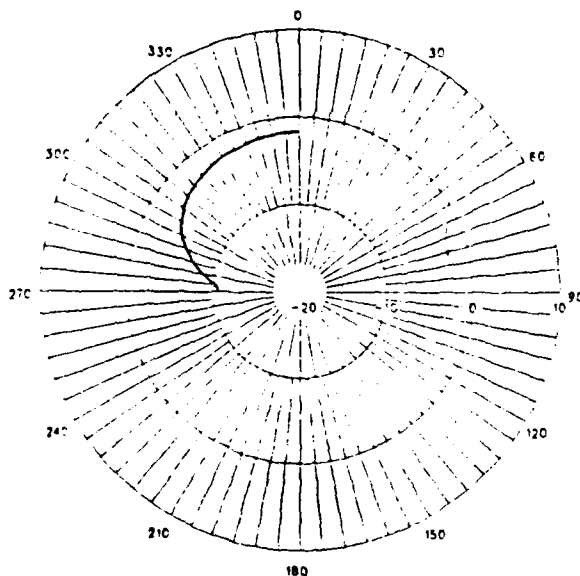
AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

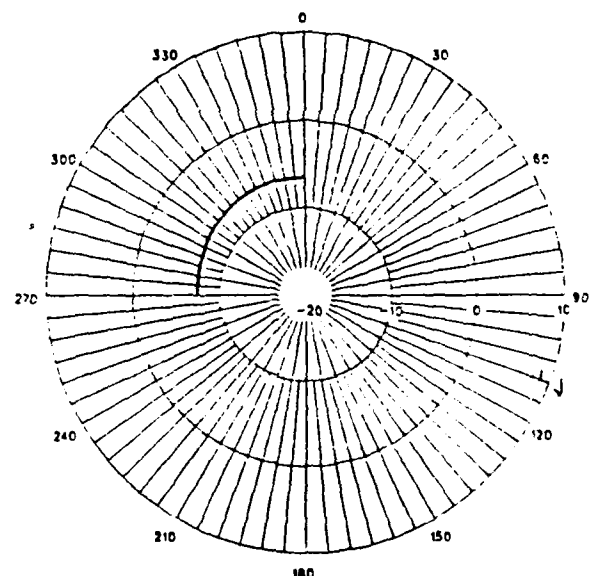
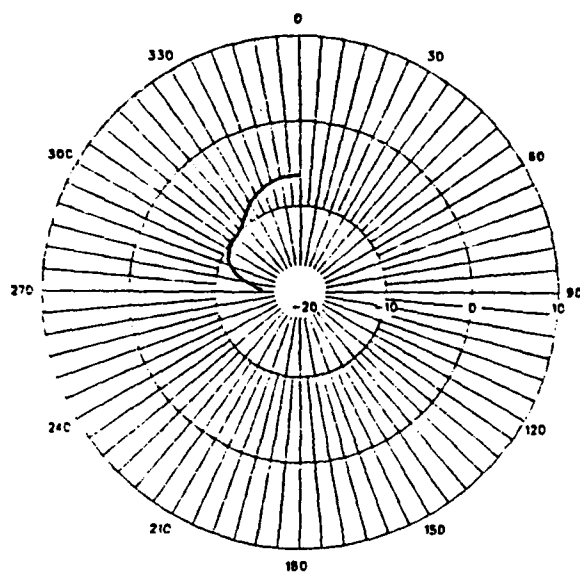
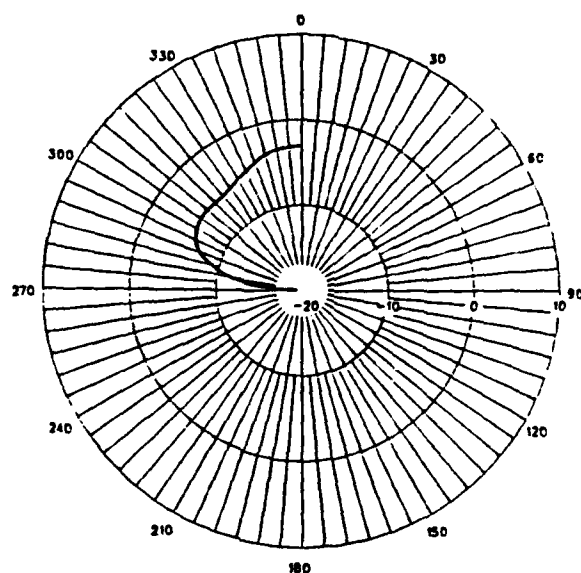


Figure 160. Azimuth patterns of The Air Force Lowband Delta antenna over perfect ground at 8 MHz

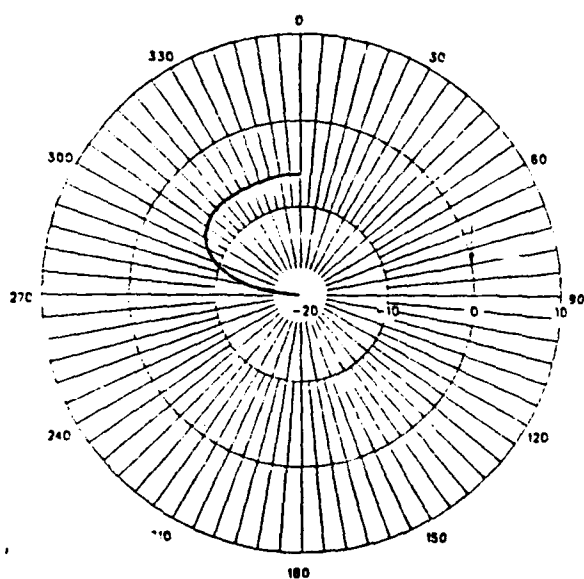
AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

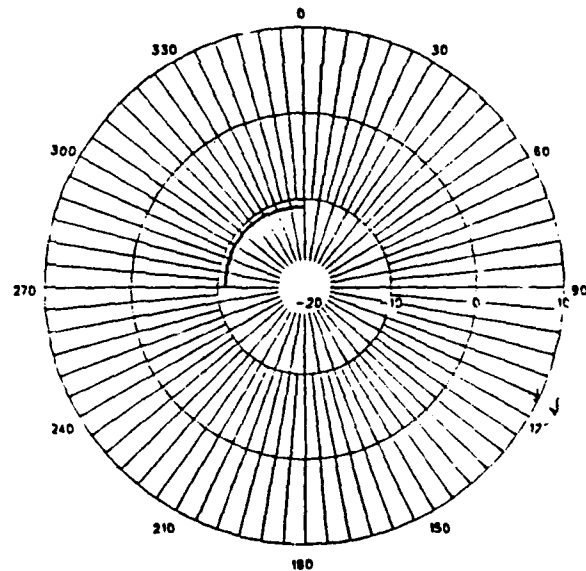
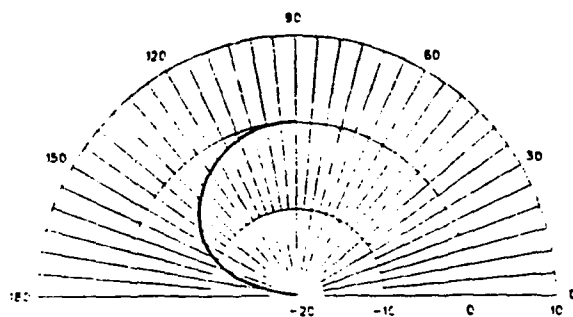
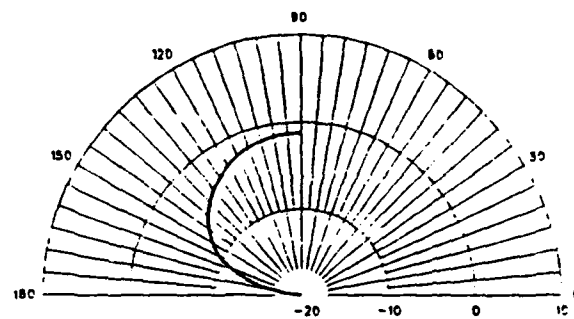


Figure 161. Azimuth patterns of the Air Force Lowband DD antenna over fair ground at 8 MHz

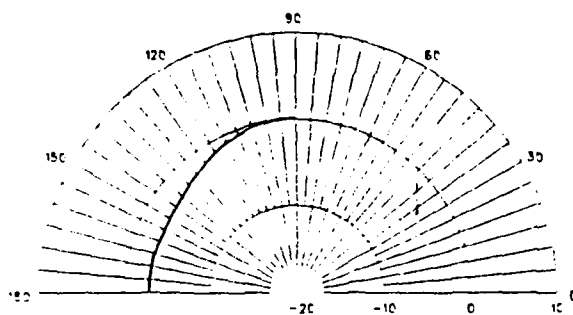
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND / 8 MMZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE H-HAND DOUBLE DELTA / PERF. GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

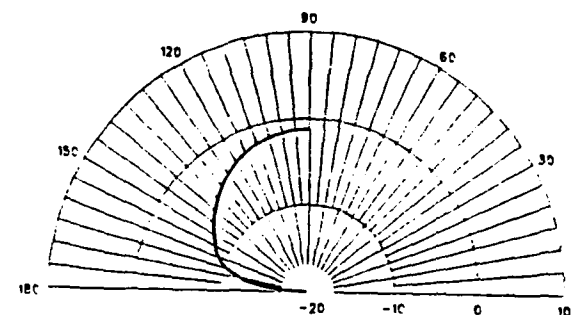
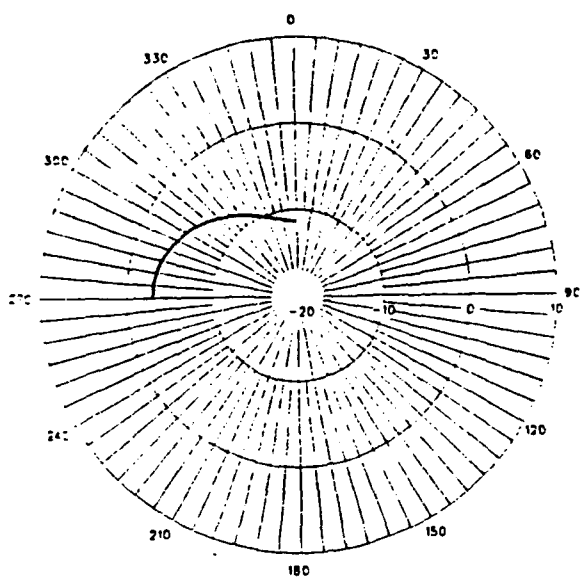
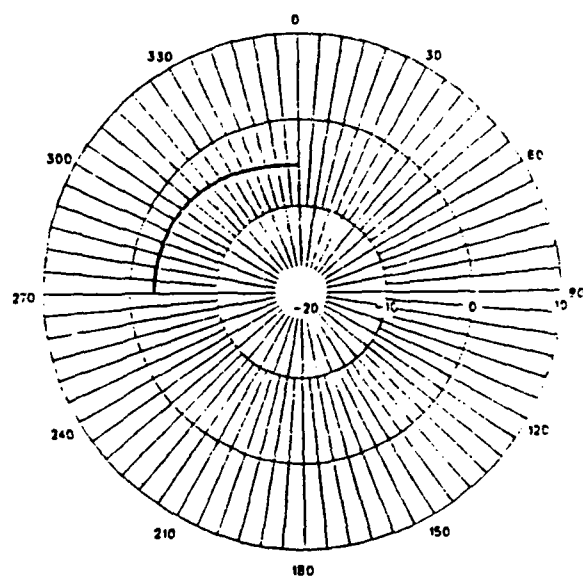


Figure 162. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 8 MHz

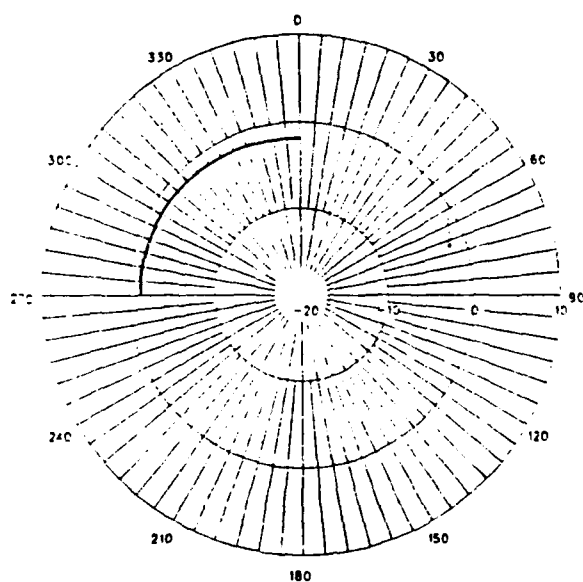
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

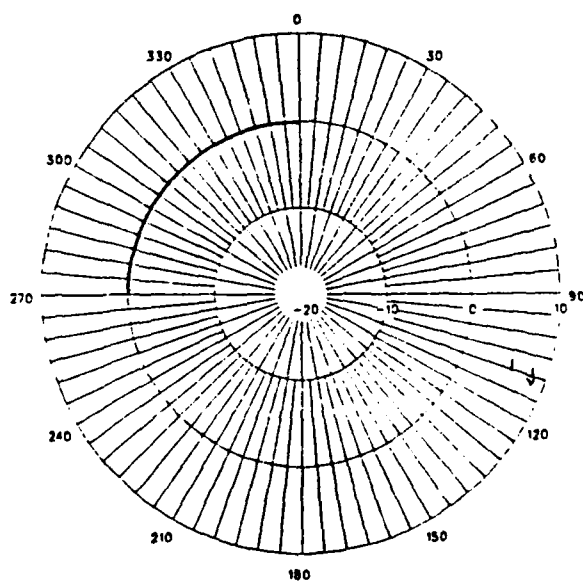
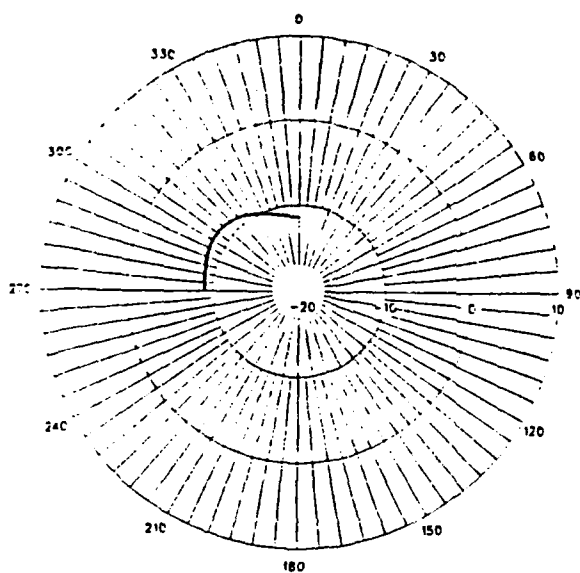
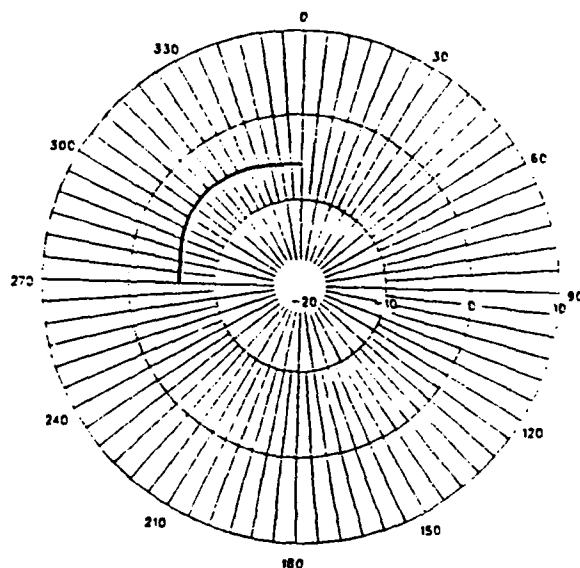


Figure 163. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 8 MHz

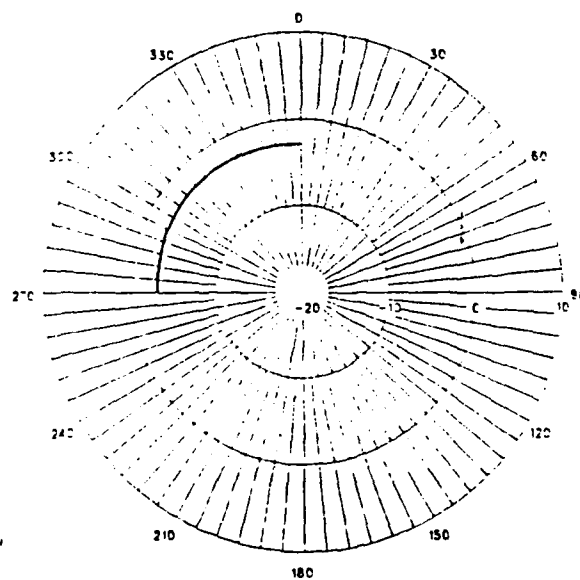
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

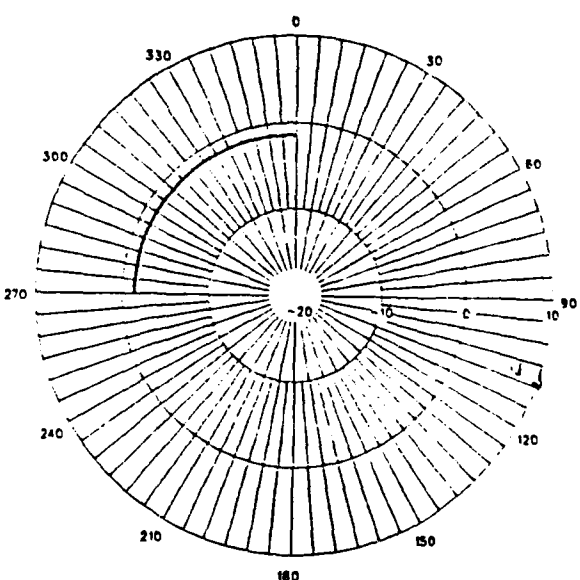
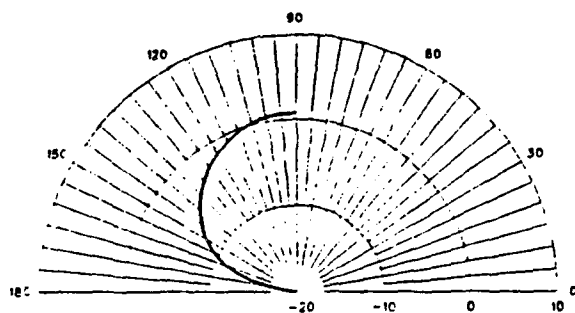
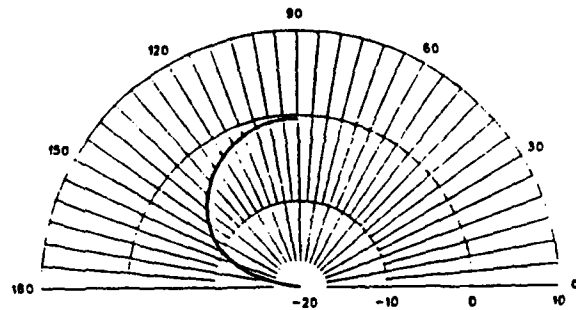


Figure 164. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 8 MHz

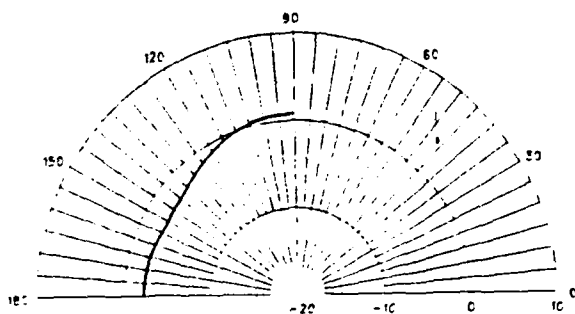
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 9 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 9 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 9 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 9 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

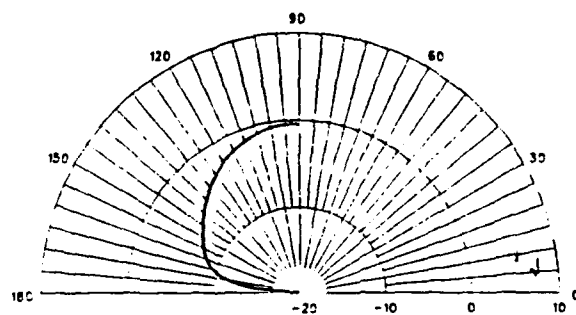
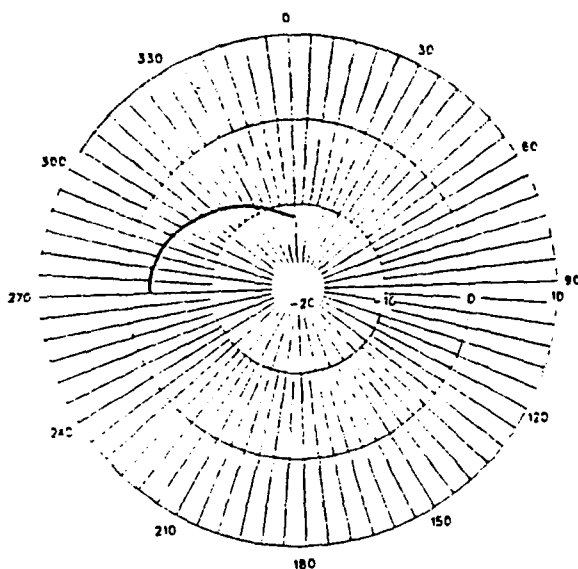
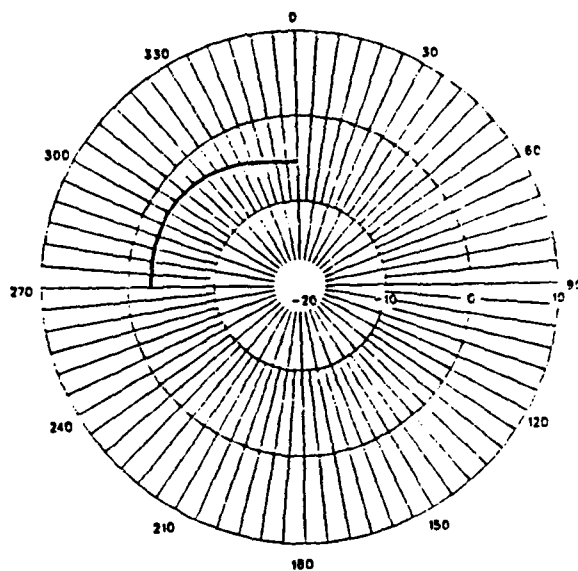


Figure 165. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 9 MHz

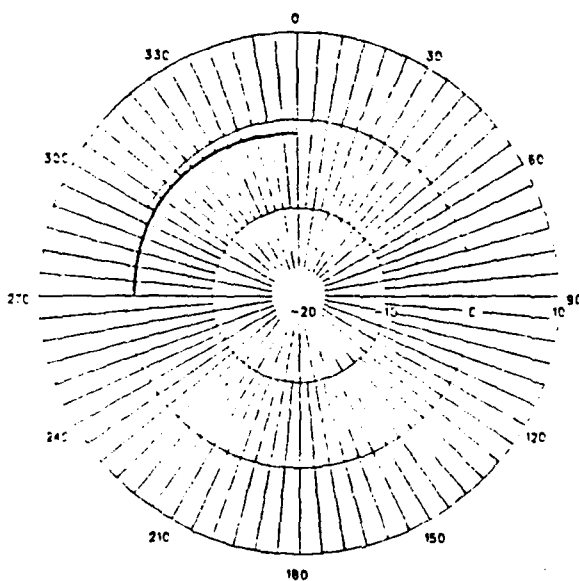
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 9 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 9 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 9 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 9 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 80

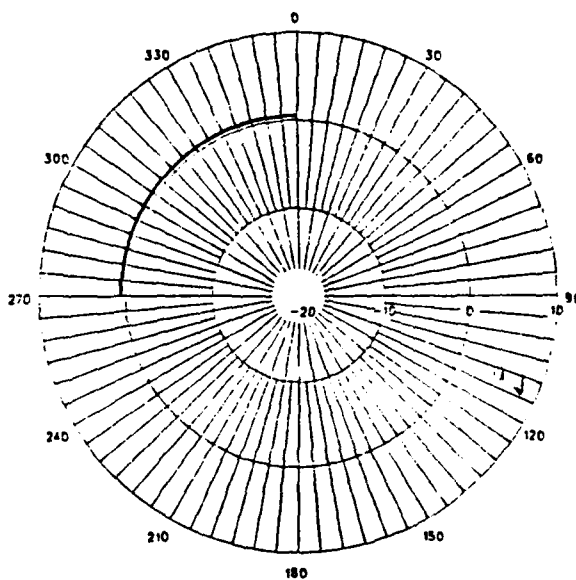
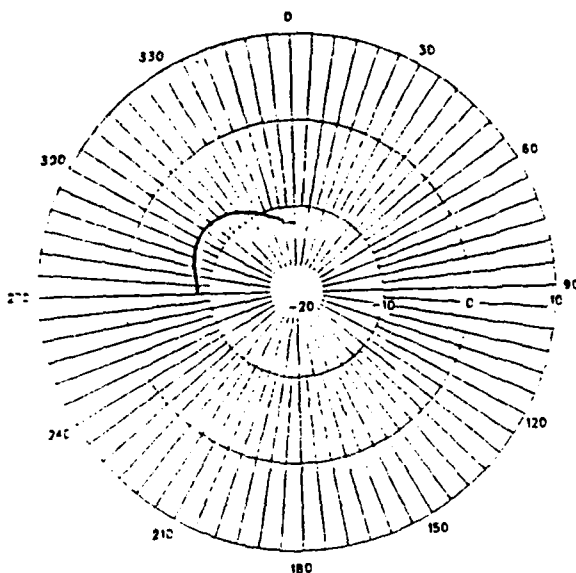
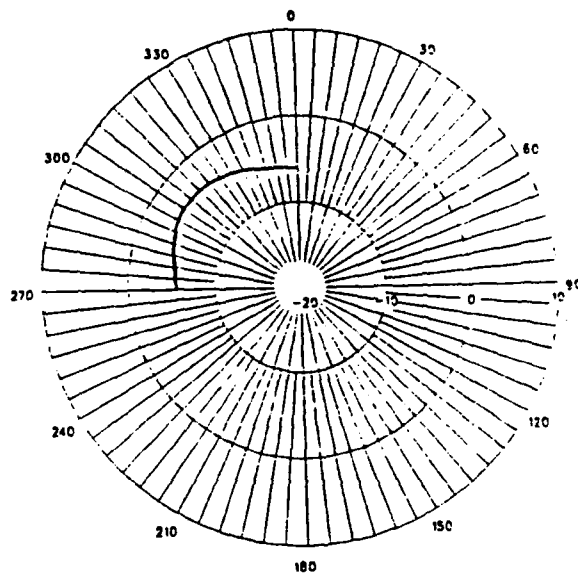


Figure 166. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 9 MHz

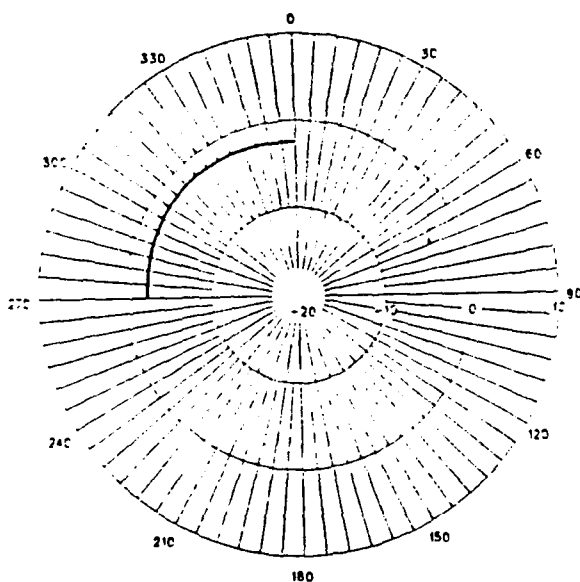
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

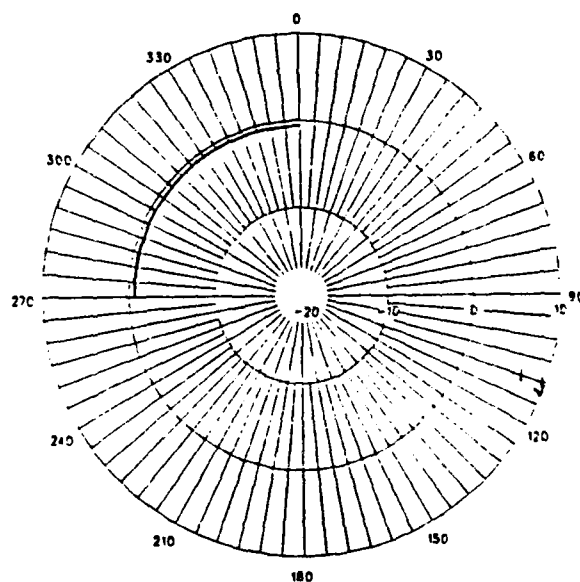


Figure 167. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 9 MHz

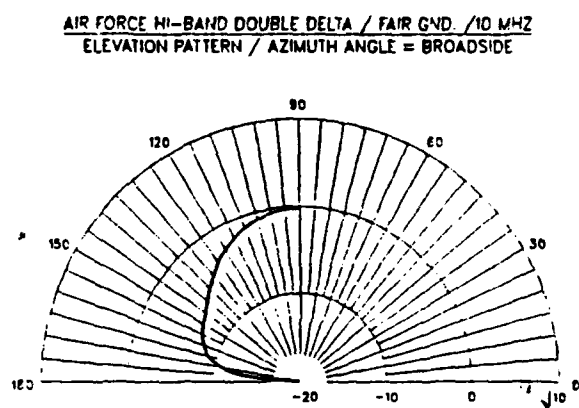
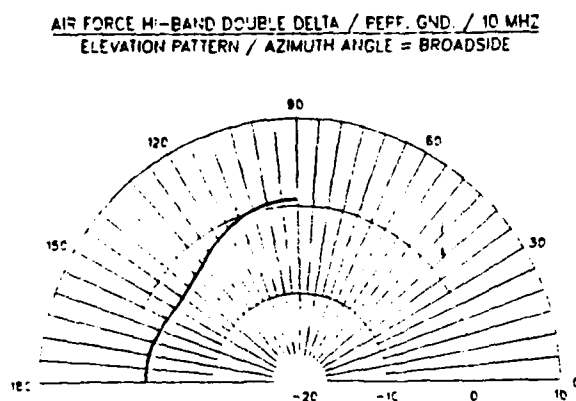
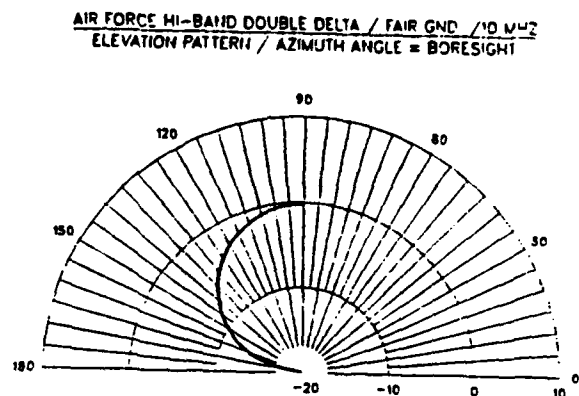
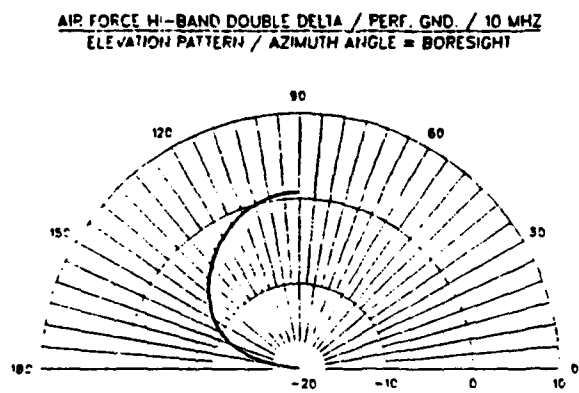
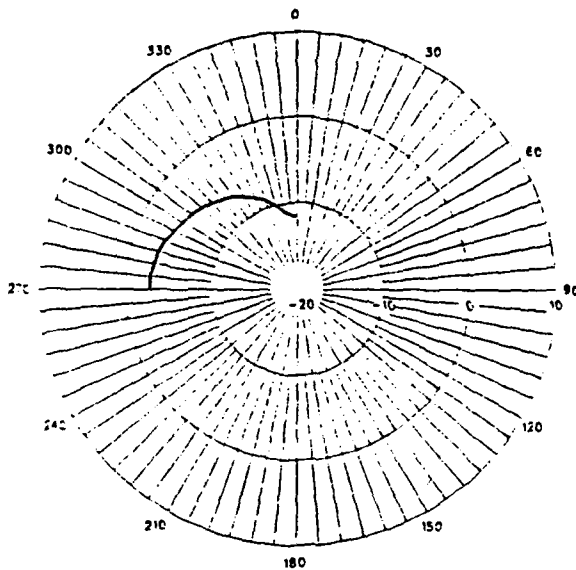
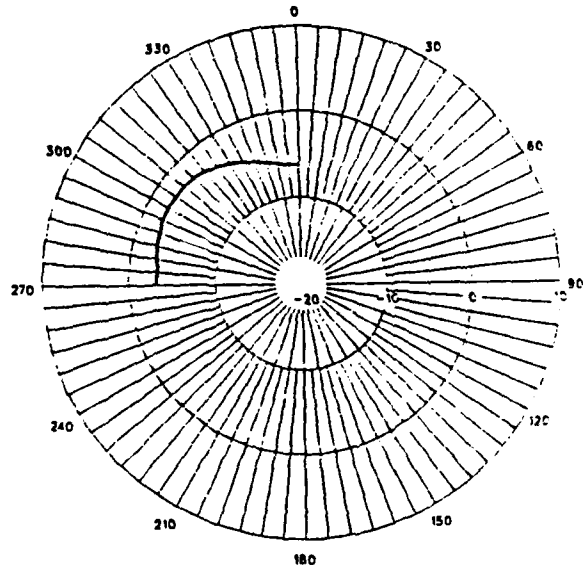


Figure 168. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 10 MHz

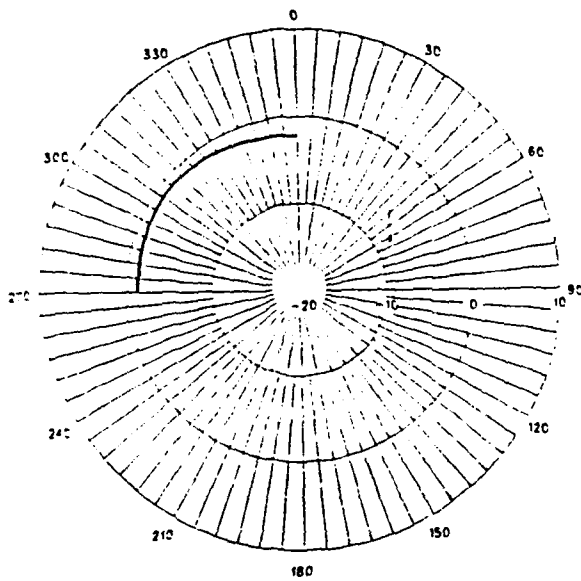
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

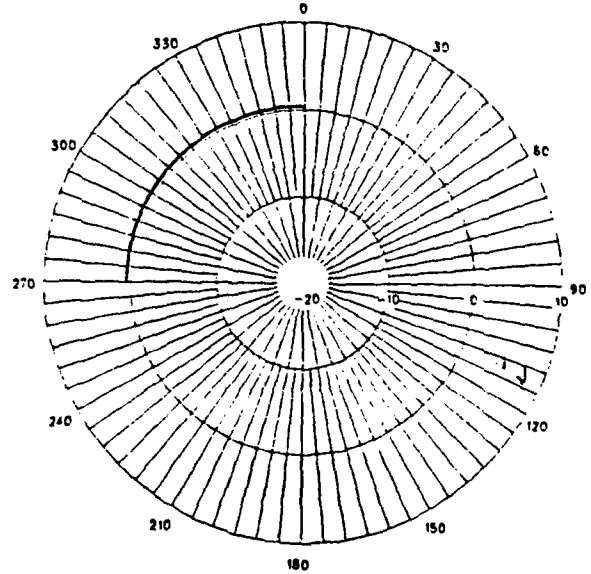
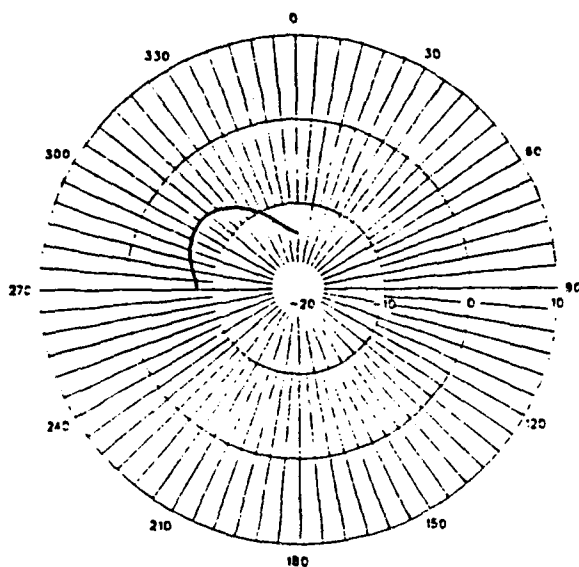
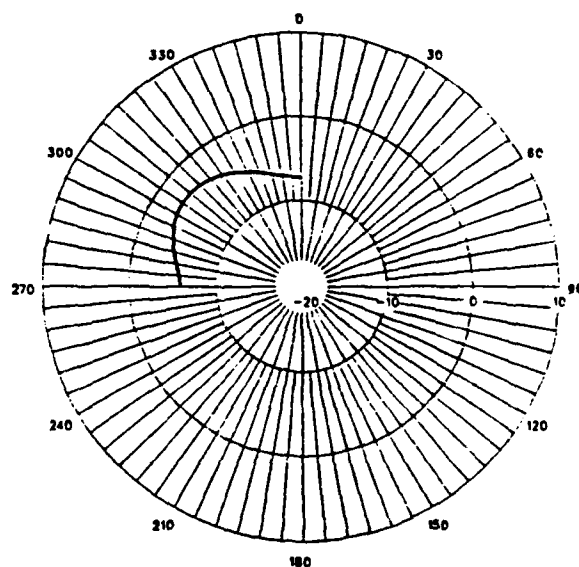


Figure 169. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 10 MHz

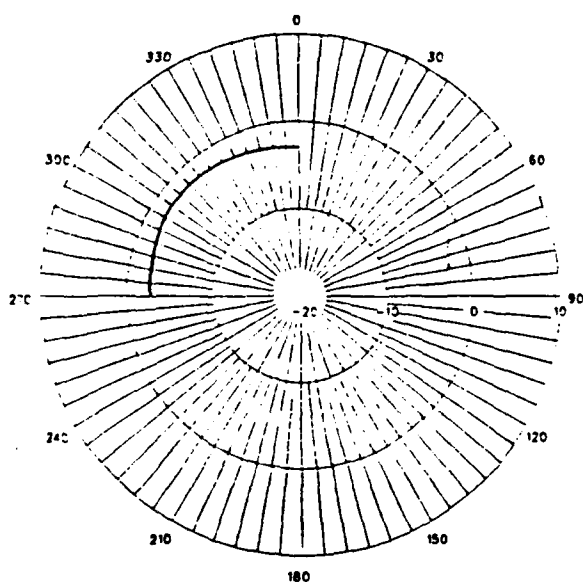
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

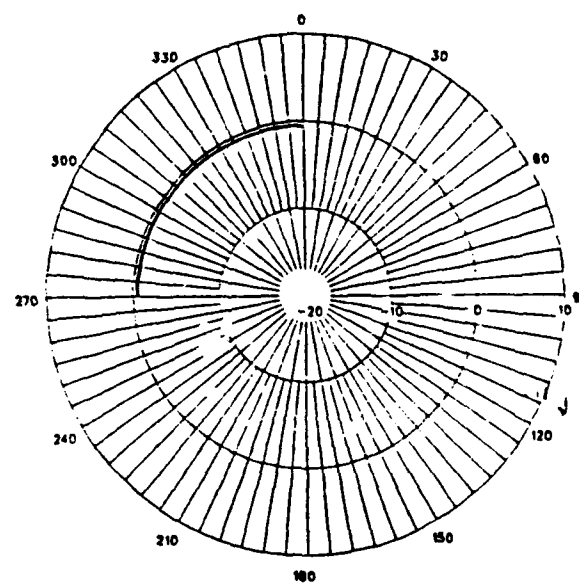
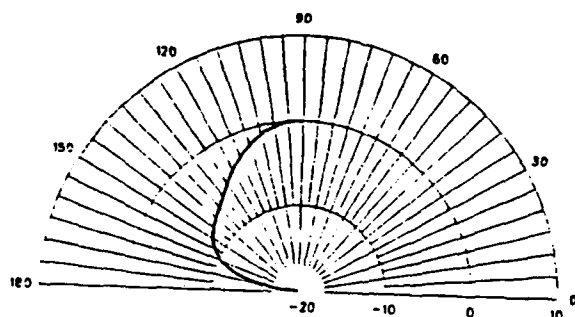
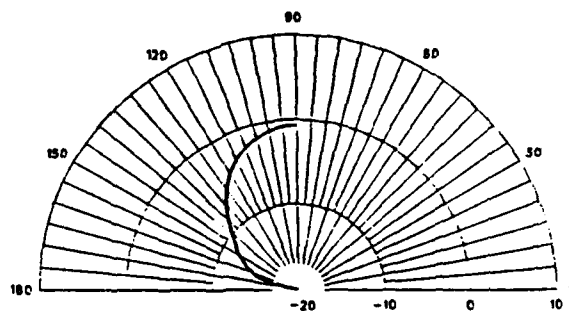


Figure 170. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 10 MHz

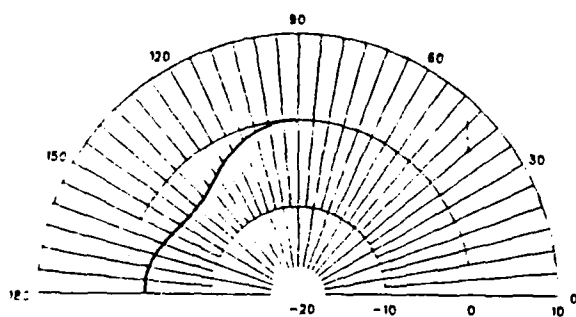
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 11 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 11 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 11 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 11 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

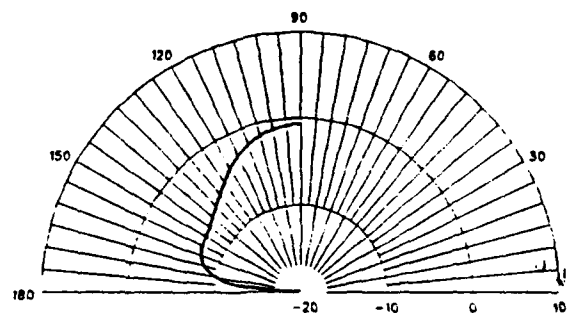
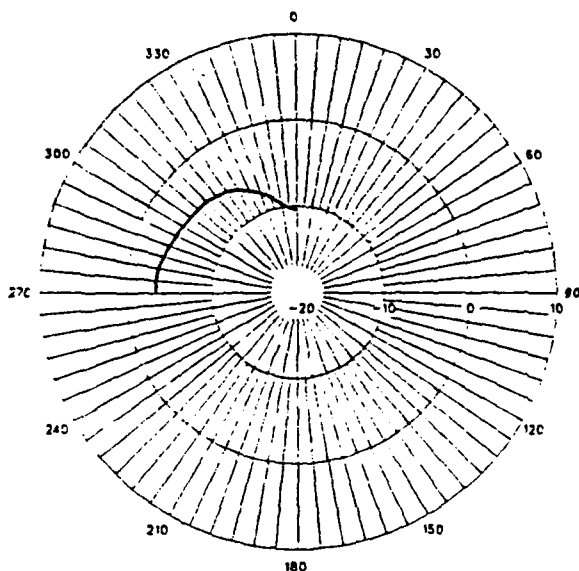
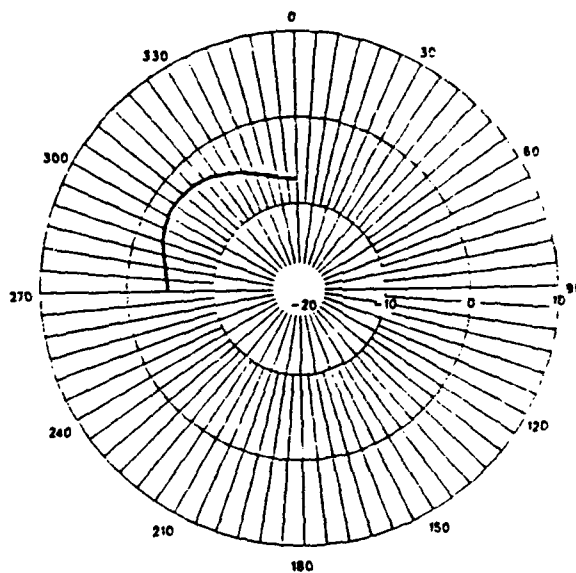


Figure 171. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 11 MHz

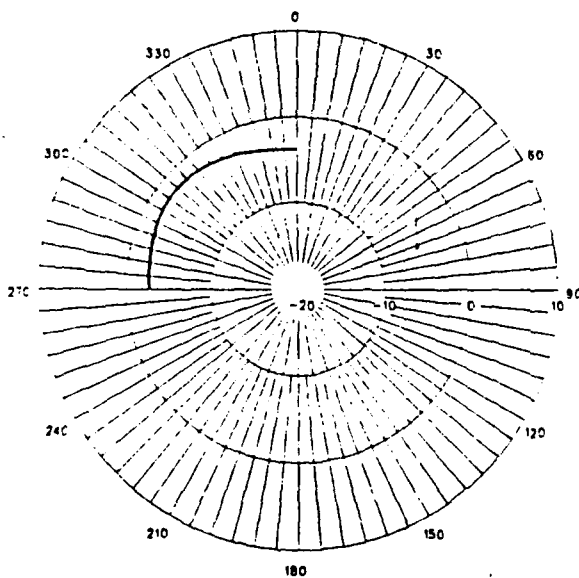
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

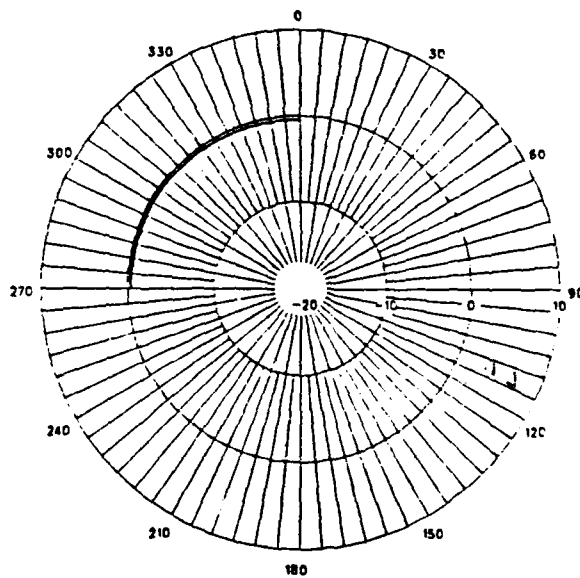
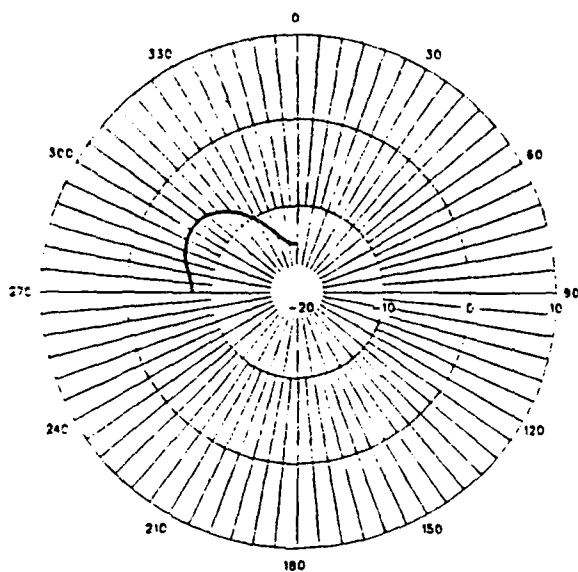
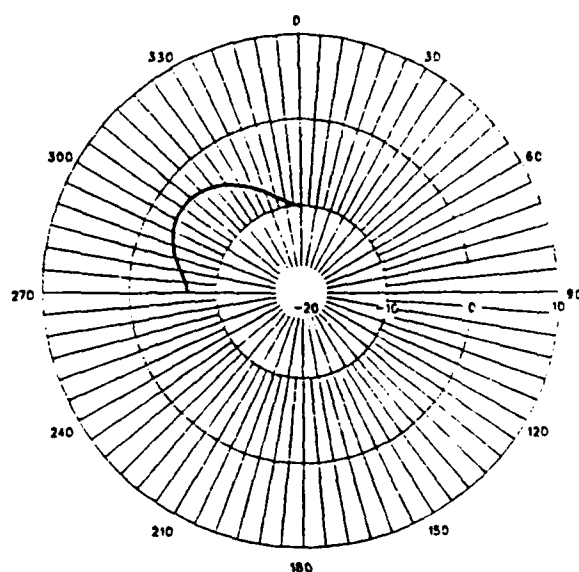


Figure 172. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 11 MHz

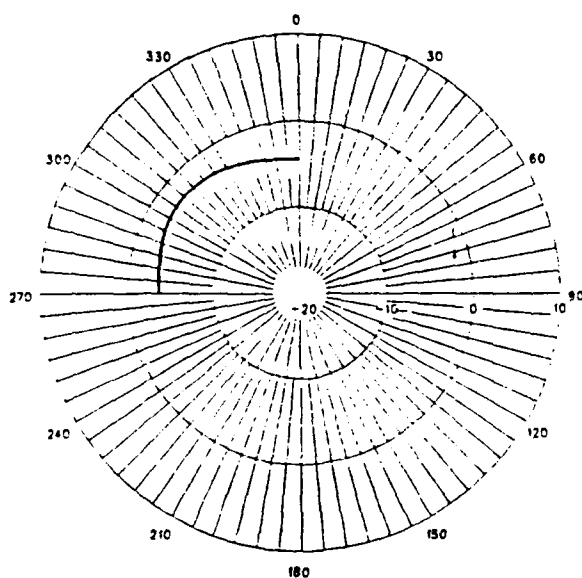
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

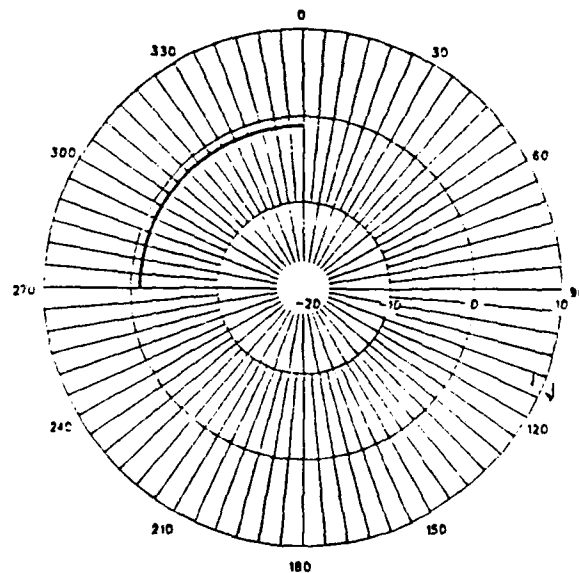
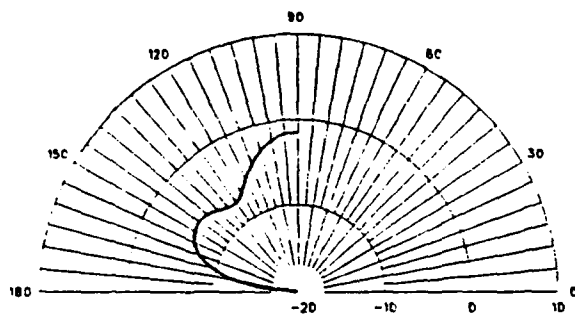
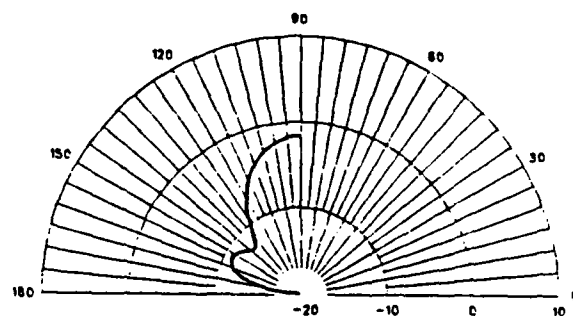


Figure 173. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 11 MHz

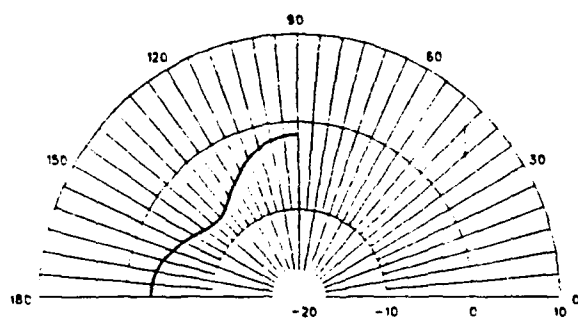
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. /12 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. /12 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. /12 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. /12 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

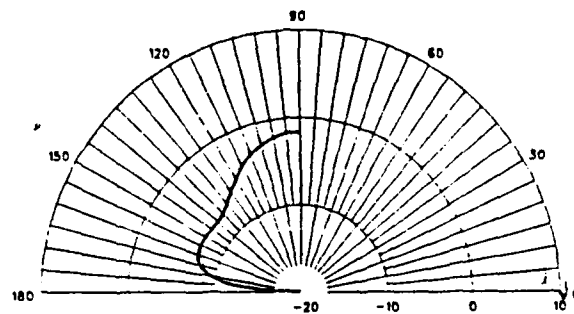
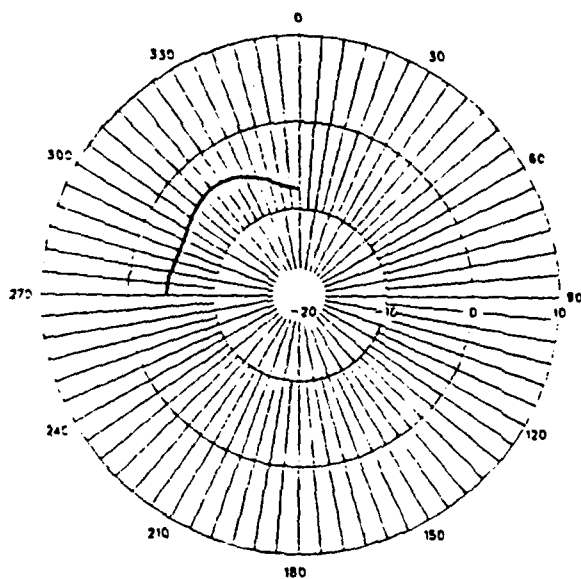
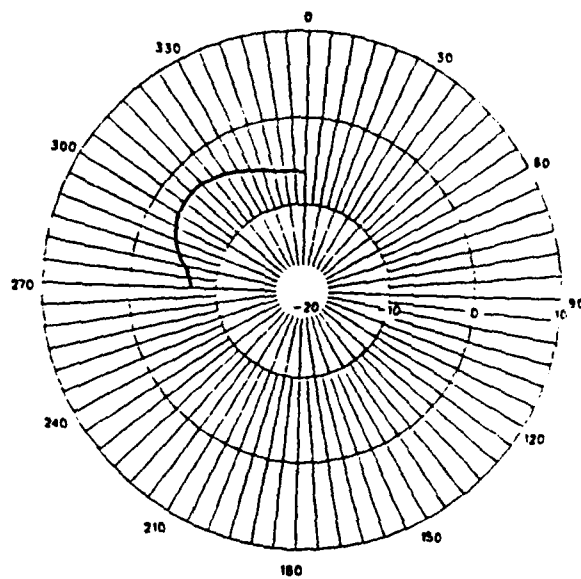


Figure 174. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 12 MHz

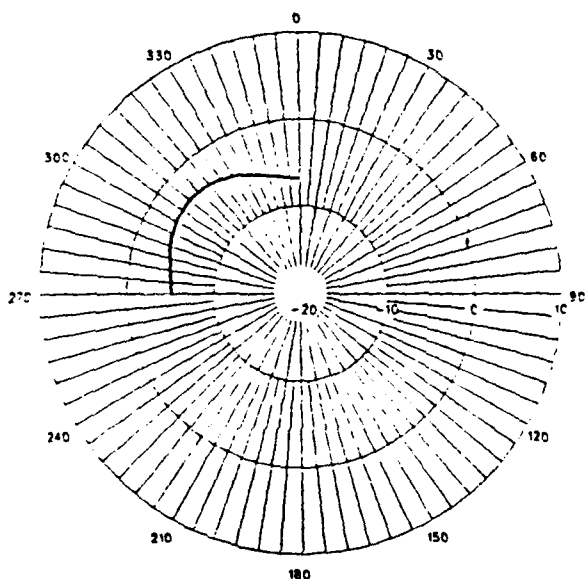
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

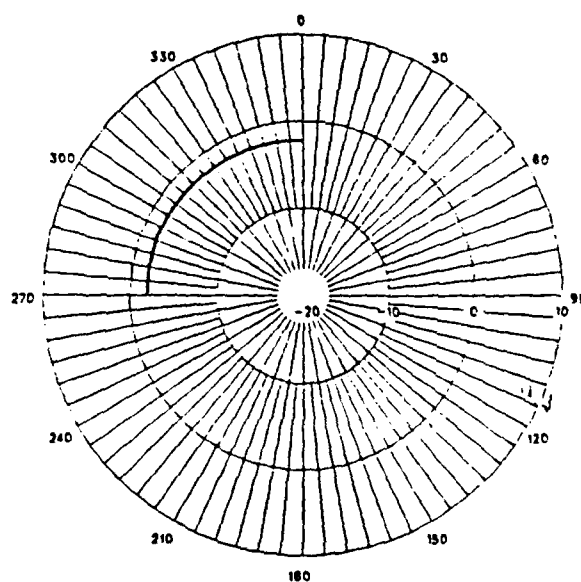
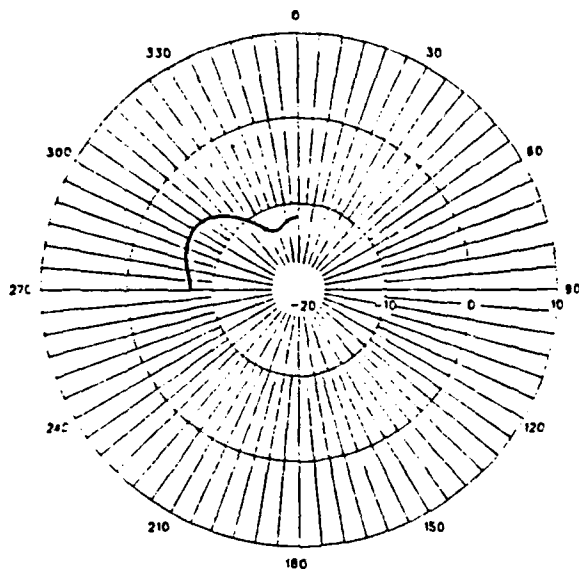
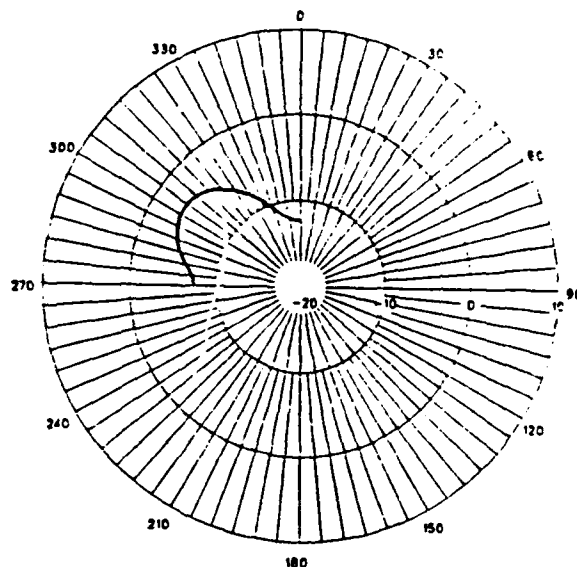


Figure 175. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 12 MHz

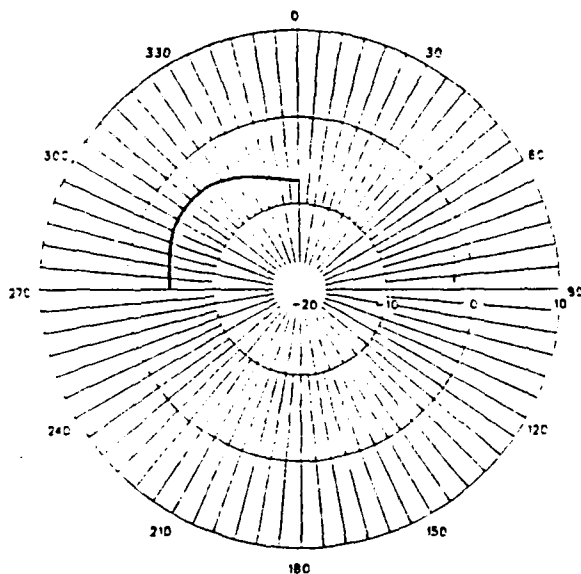
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

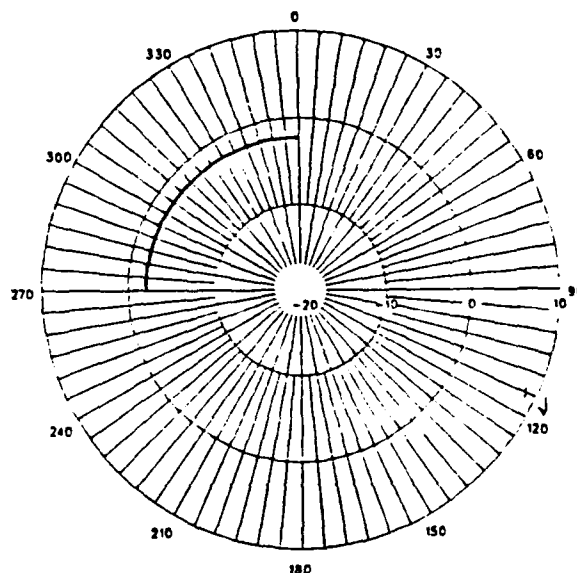
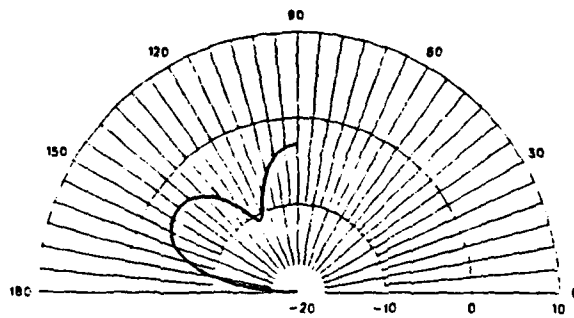
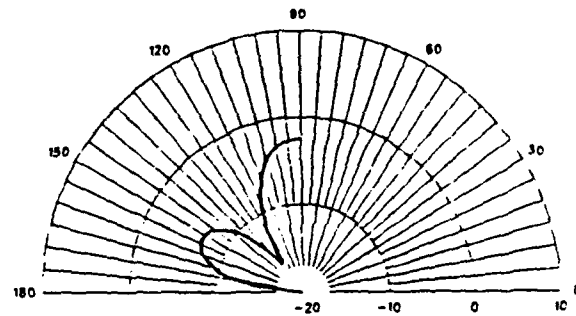


Figure 176. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 12 MHz

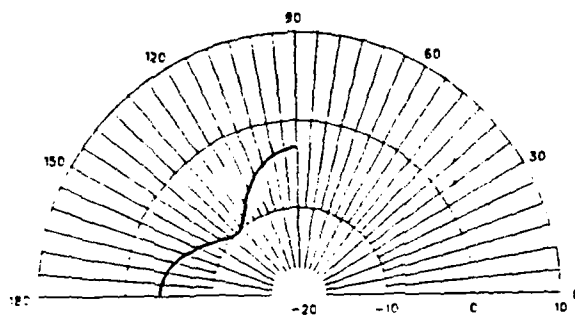
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 13 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE \approx BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 13 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE \approx BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 13 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE \approx BROADSIDE



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 13 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE \approx BROADSIDE

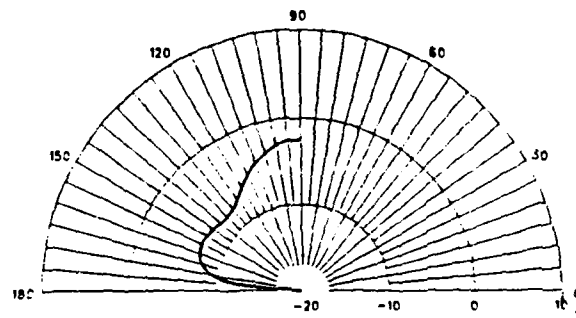
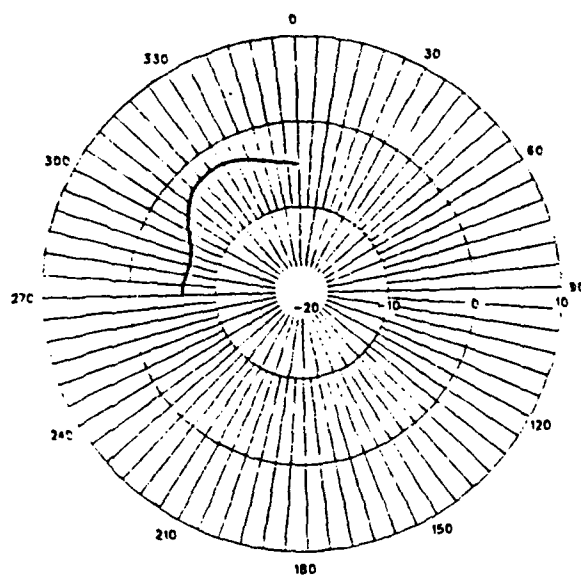
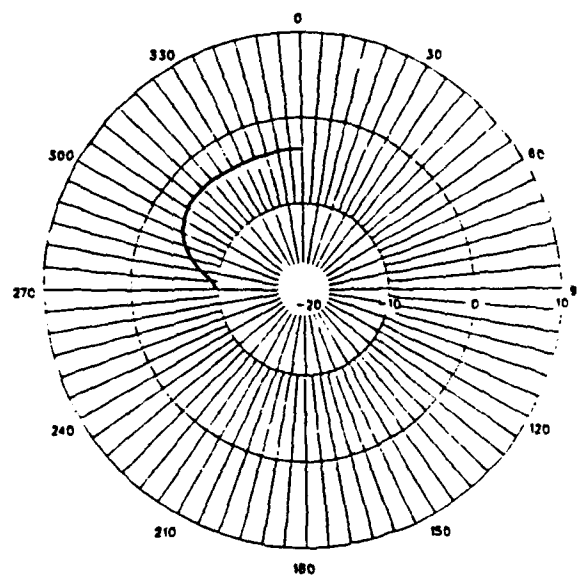


Figure 177. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 13 MHz

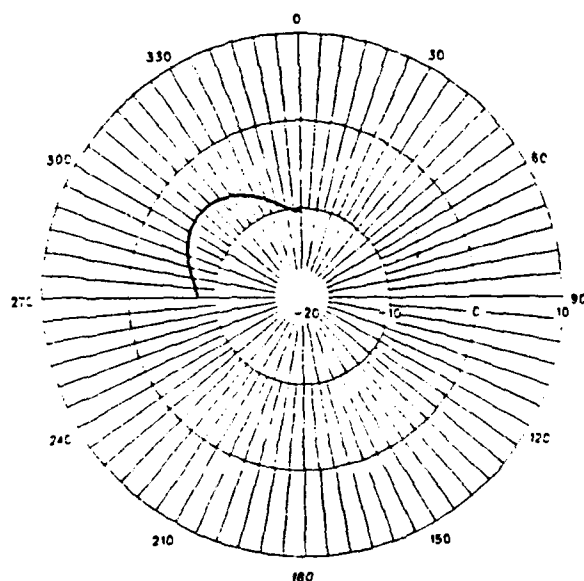
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

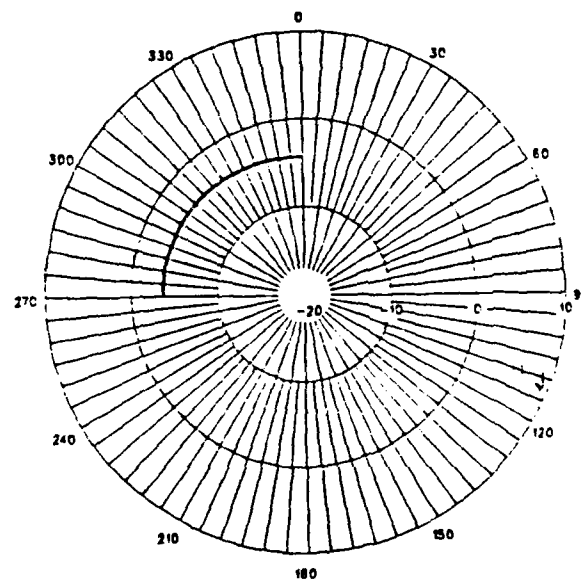
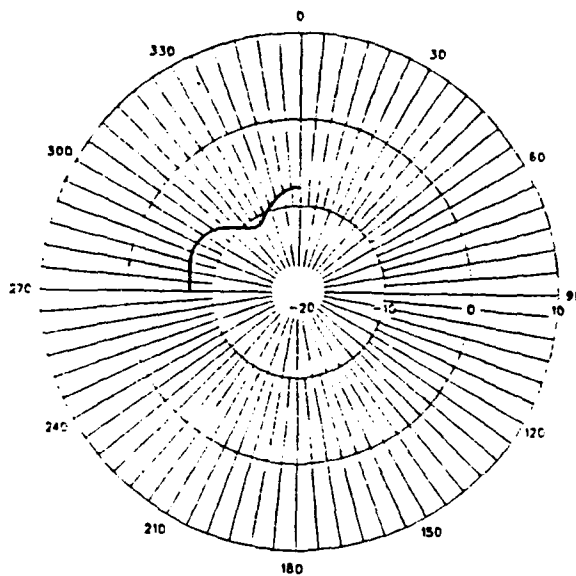
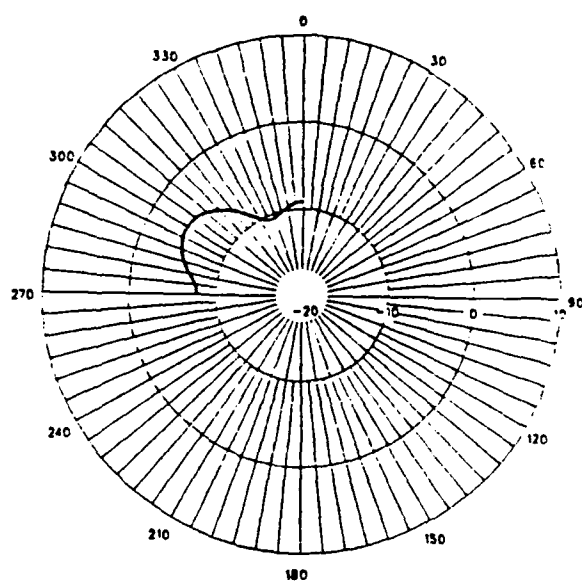


Figure 178. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 13 MHz

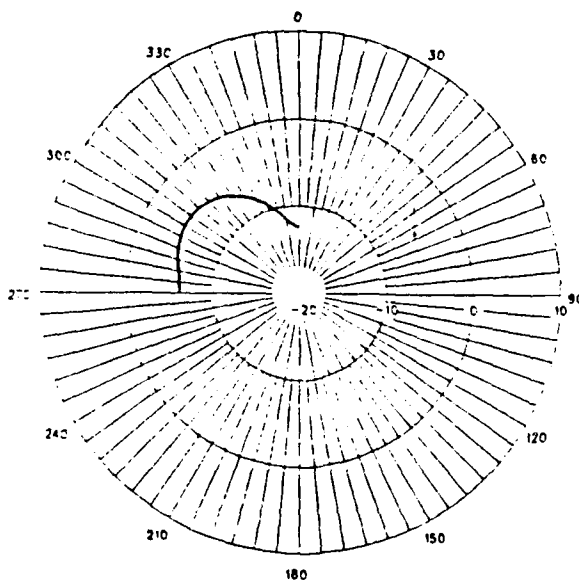
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

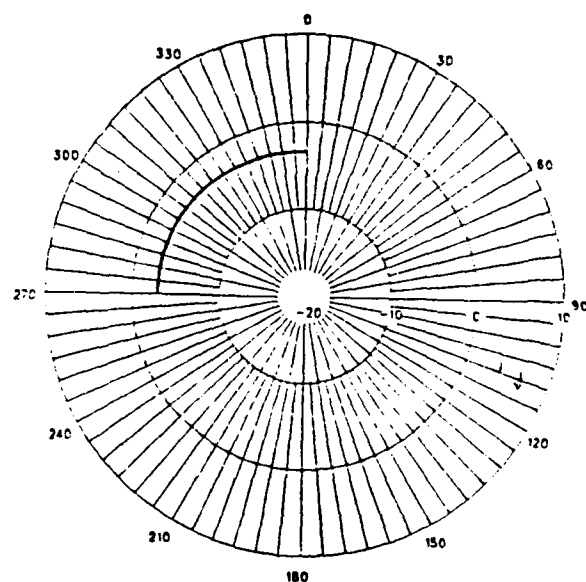


Figure 179. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 13 MHz

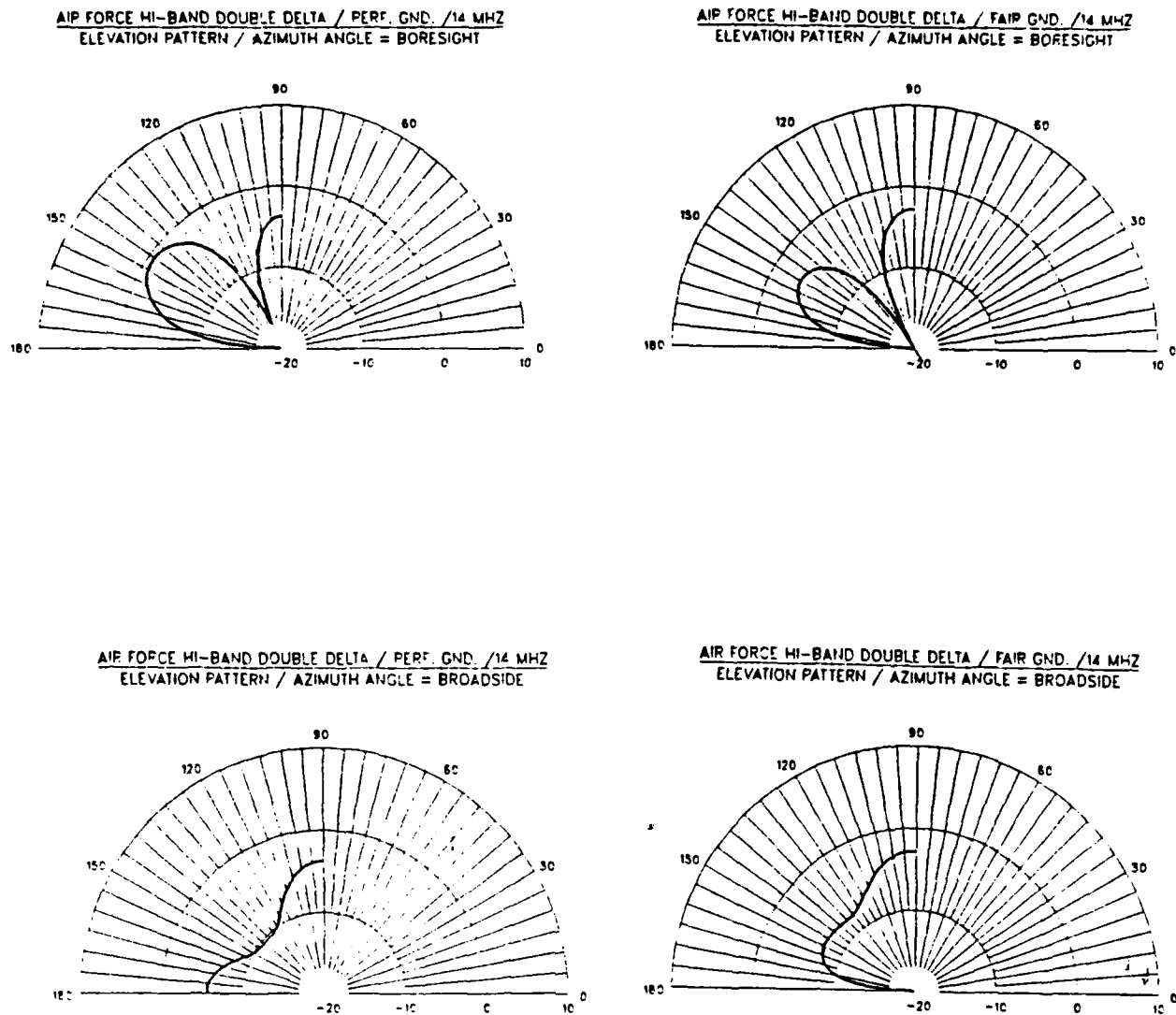
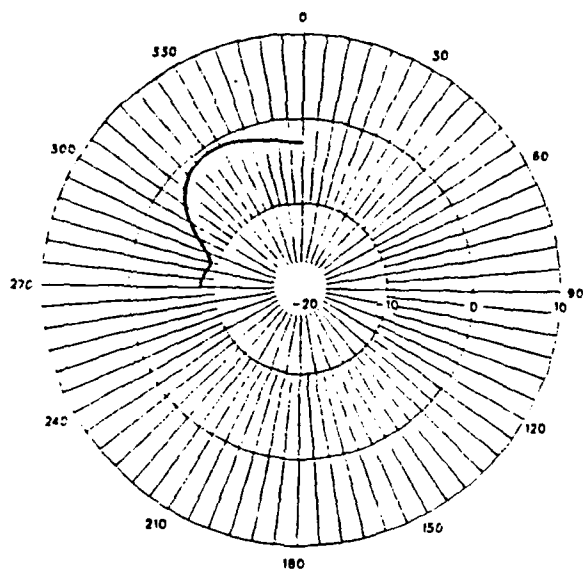
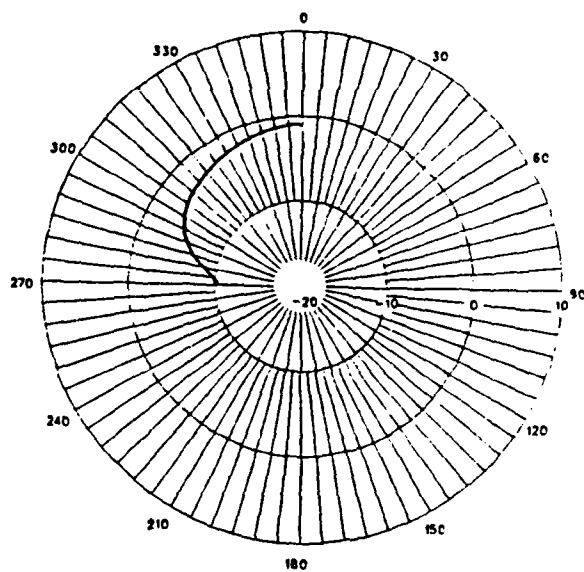


Figure 180. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 14 MHz

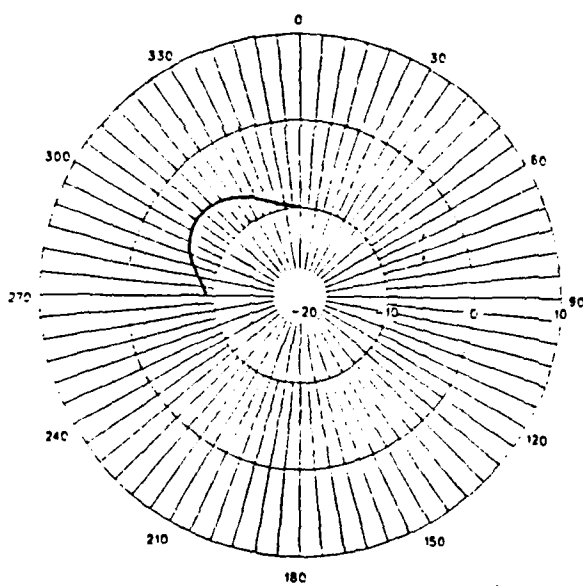
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

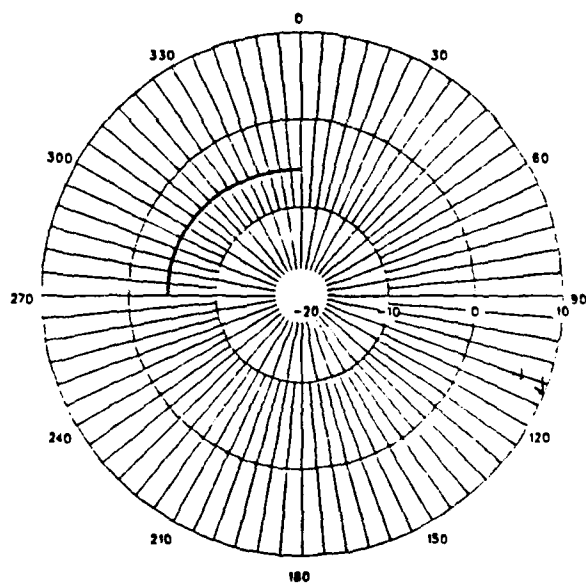
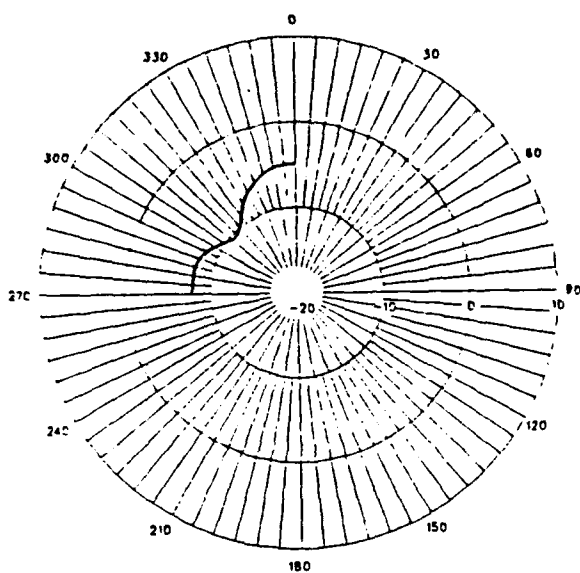
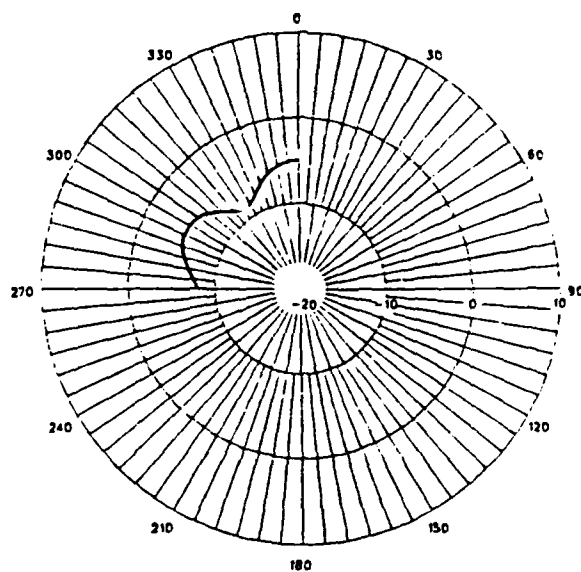


Figure 181. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 14 MHz

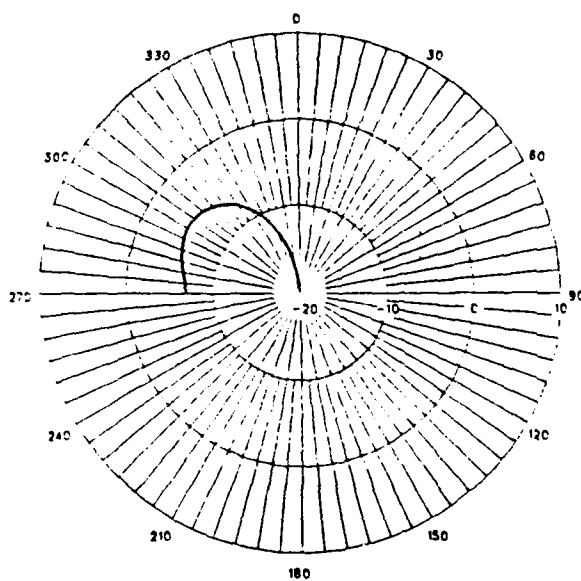
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

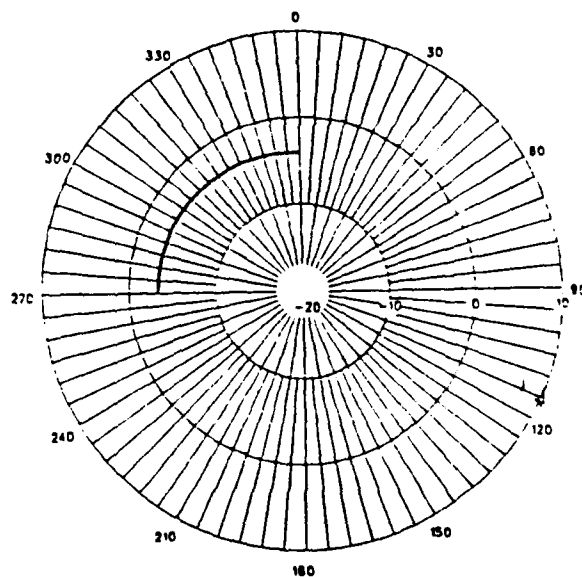
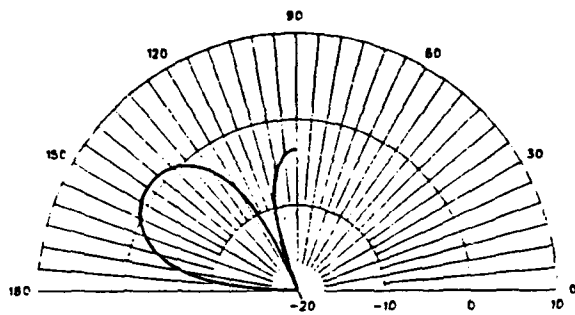
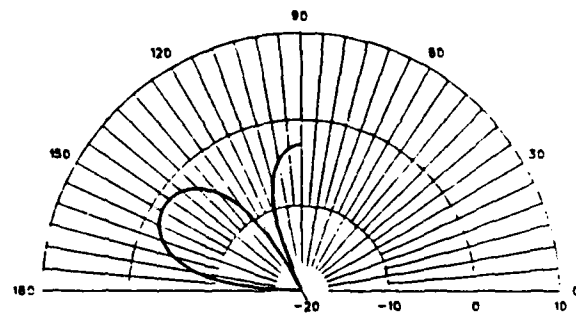


Figure 182. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 14 MHz

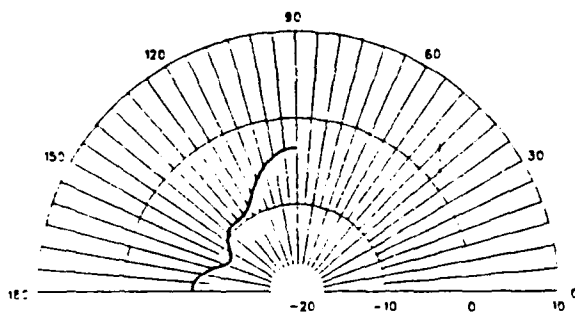
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 15 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 15 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 15 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 15 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

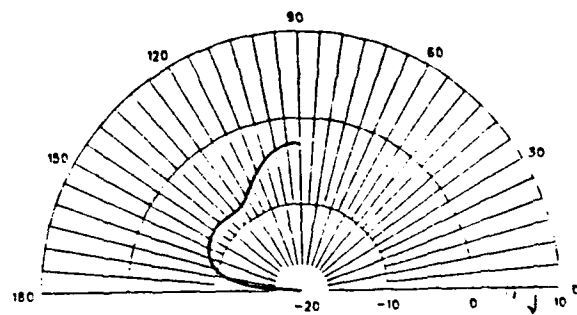
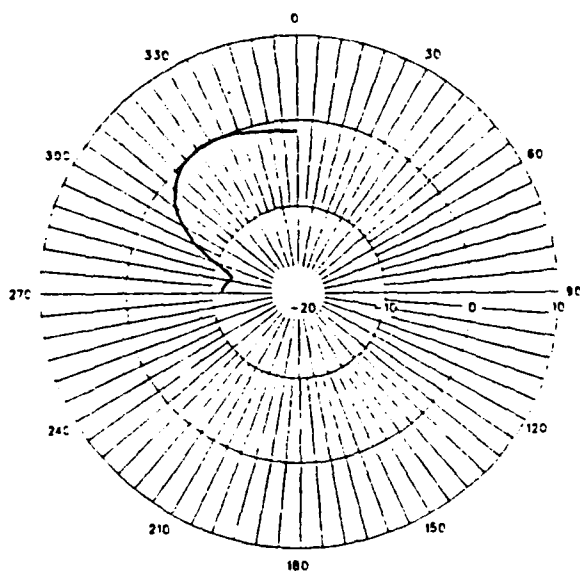
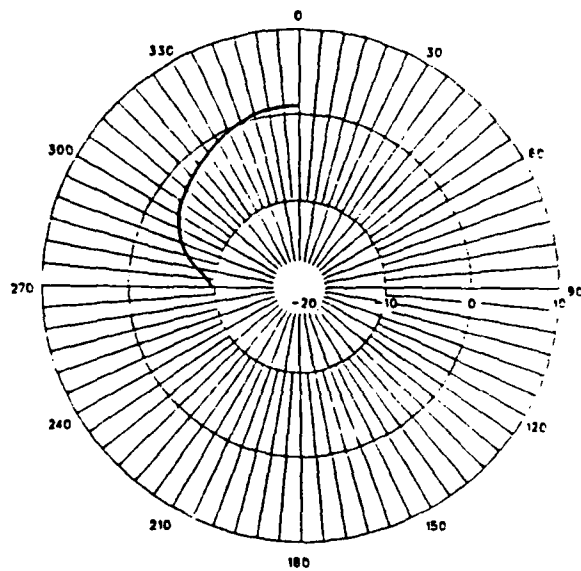


Figure 183. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 15 MHz

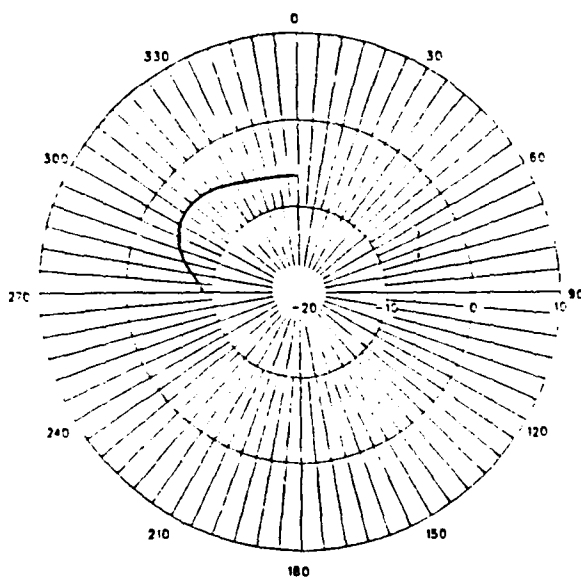
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

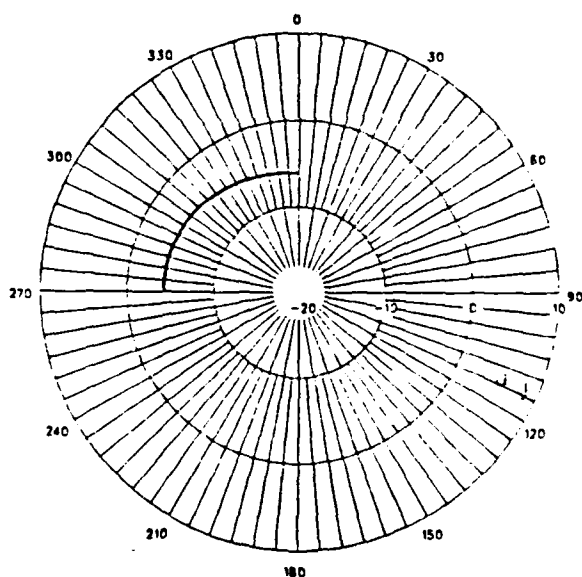
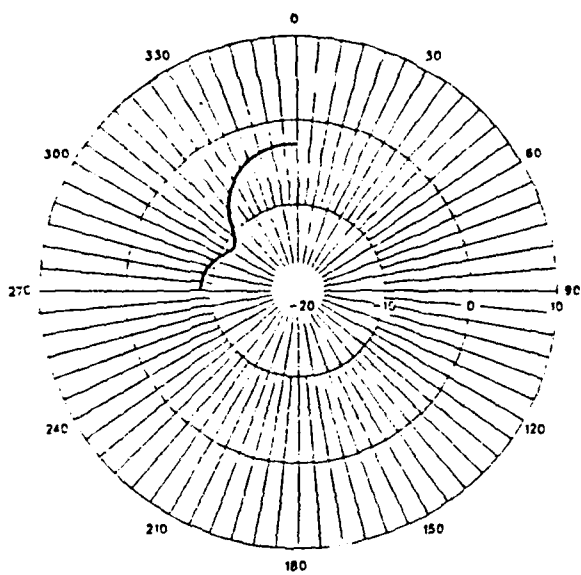
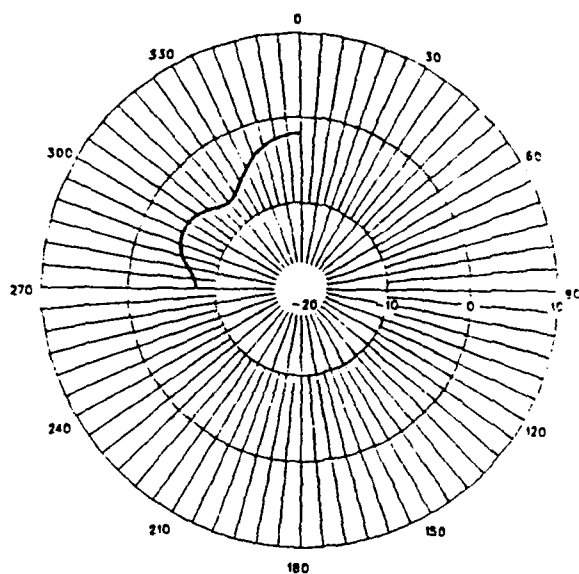


Figure 184. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 15 MHz

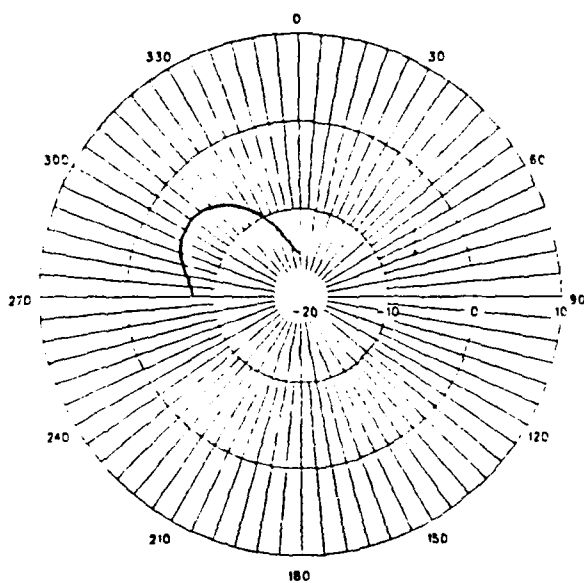
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

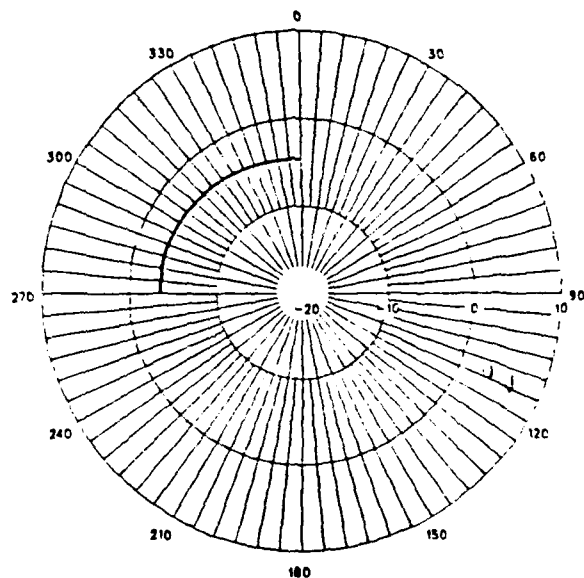


Figure 185. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 15 MHz

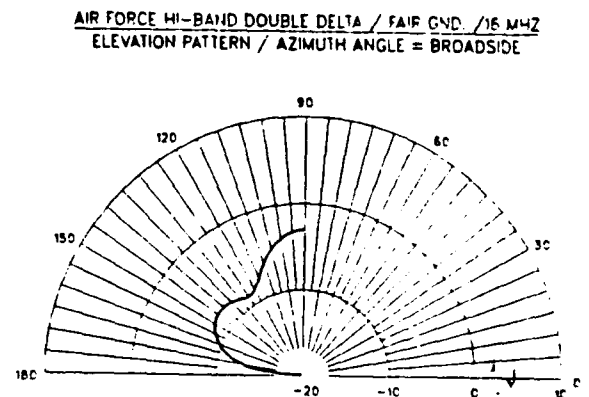
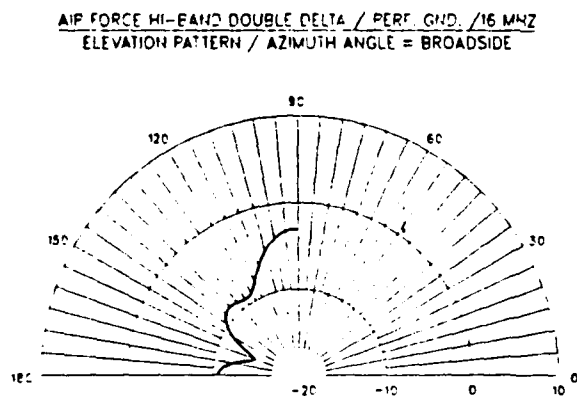
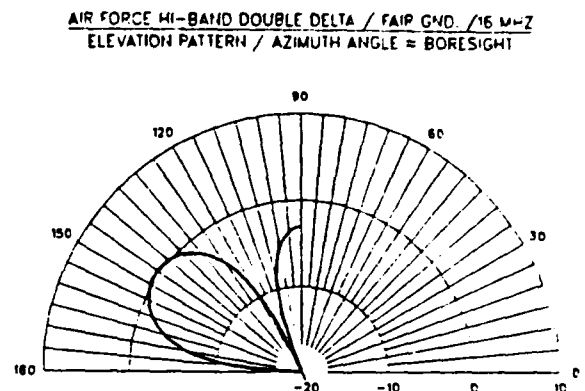
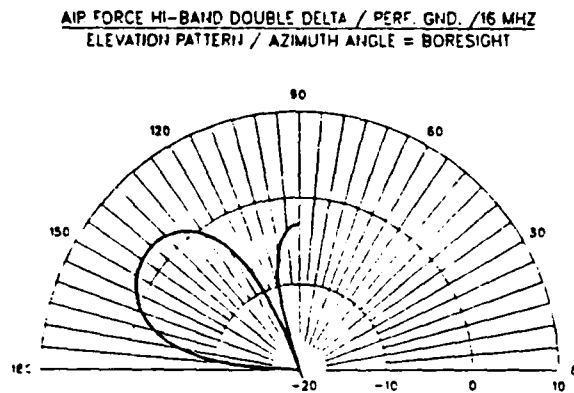
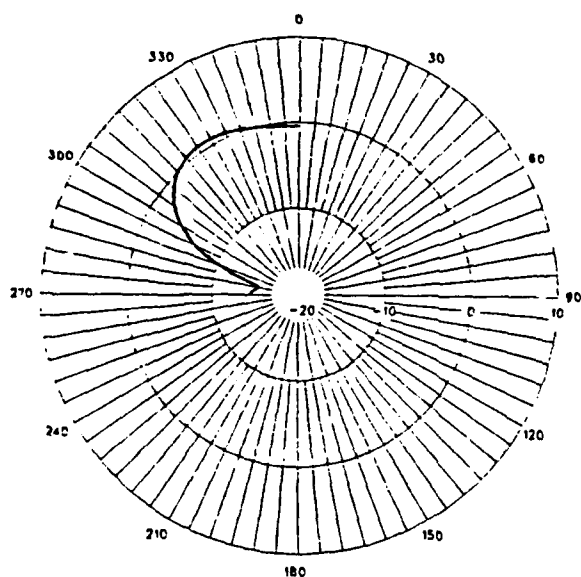
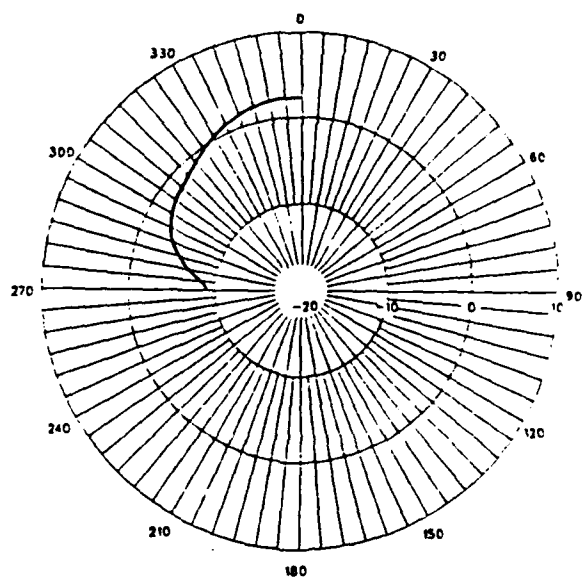


Figure 186. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 16 MHz

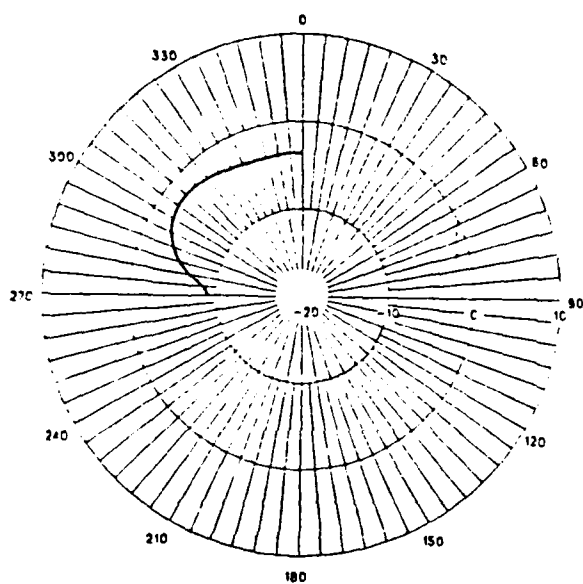
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

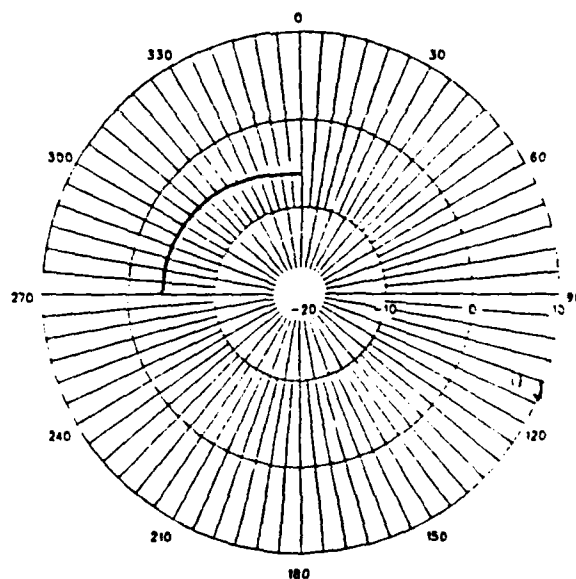
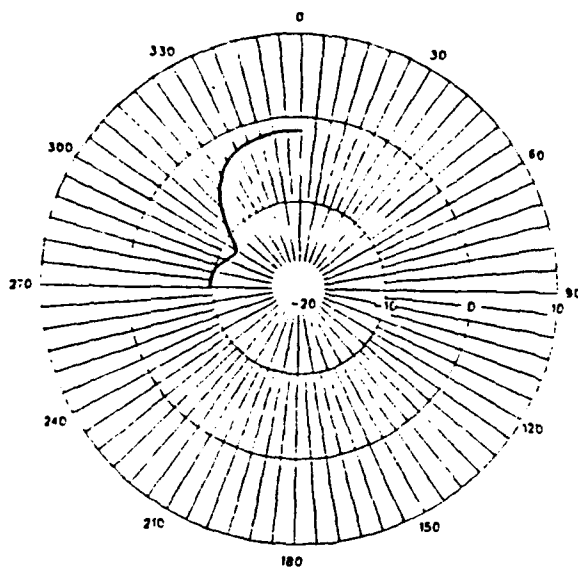
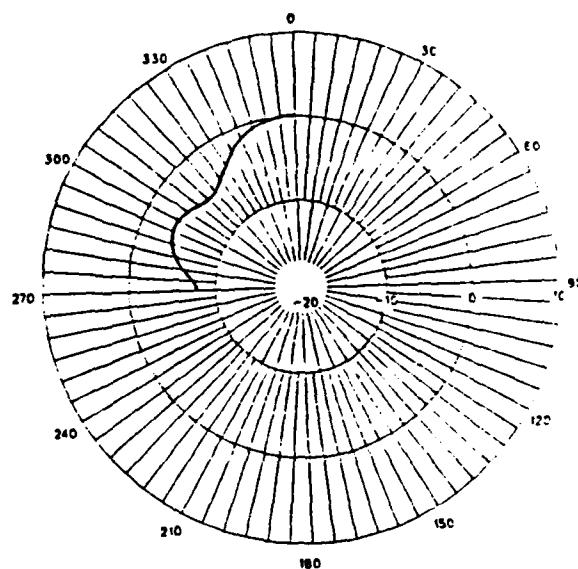


Figure 187. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 16 MHz

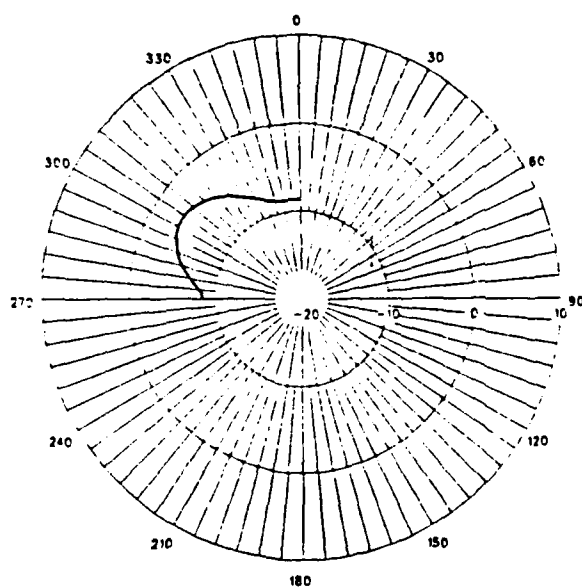
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

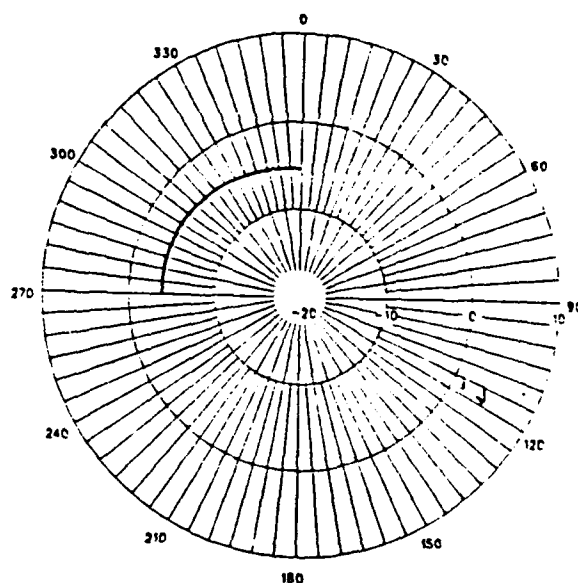


Figure 188. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 16 MHz

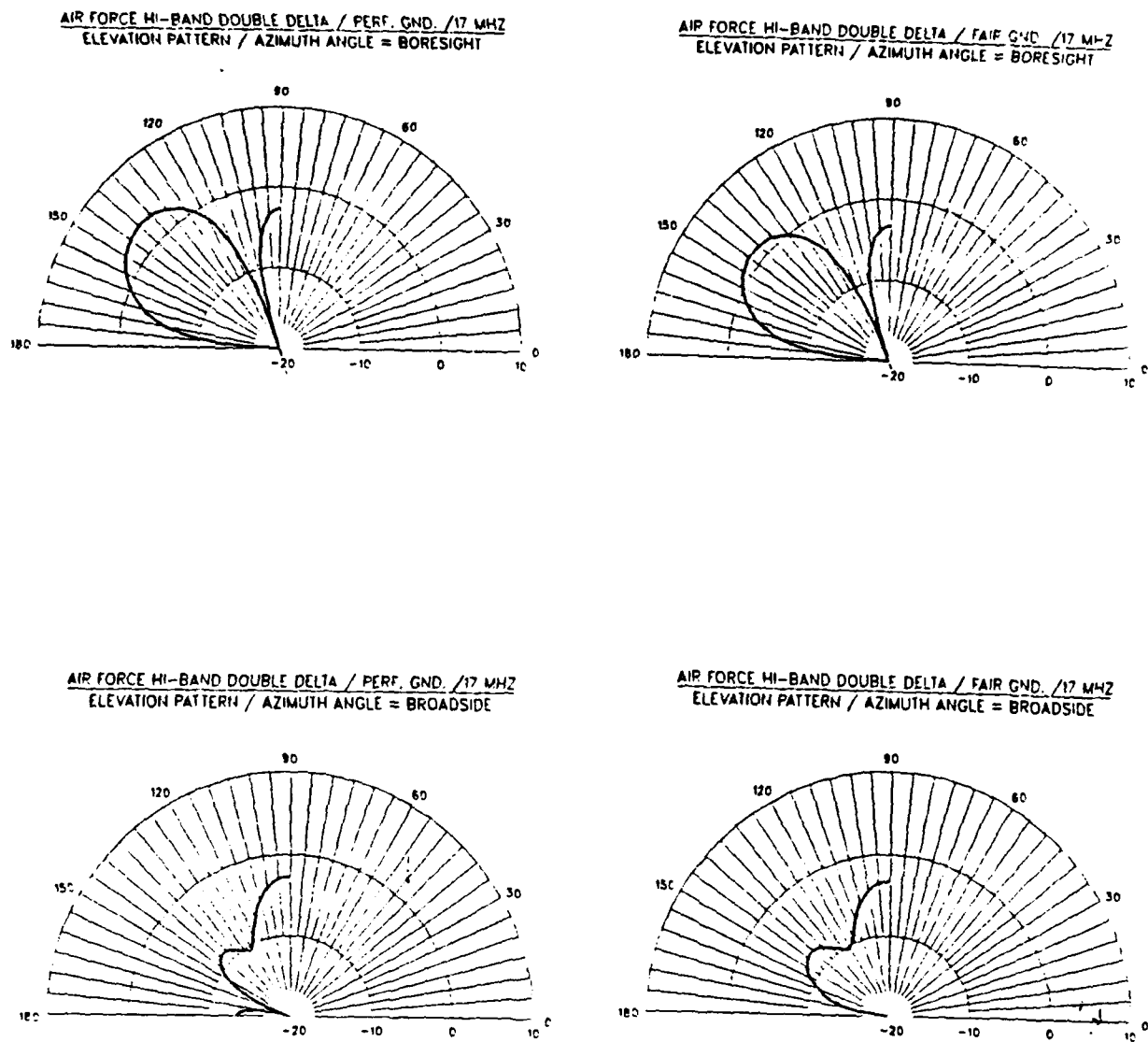
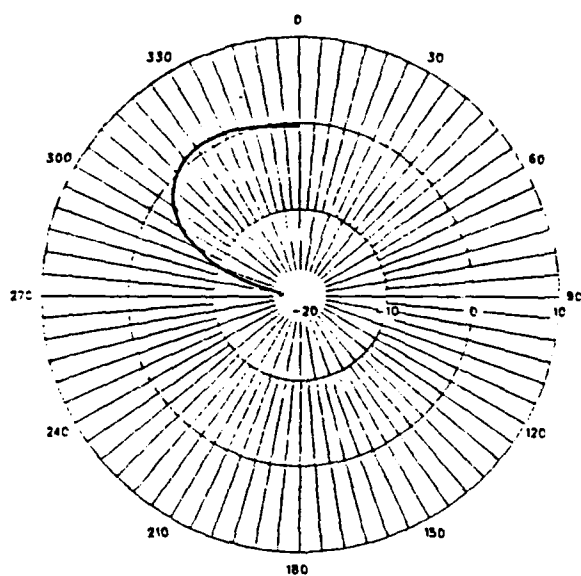
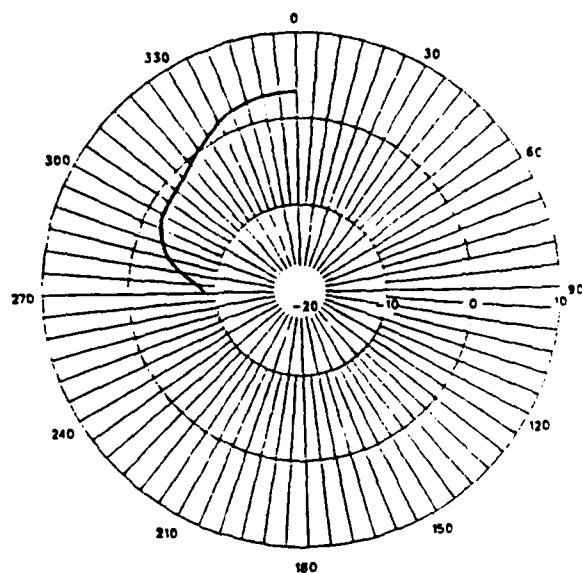


Figure 189. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 17 MHz

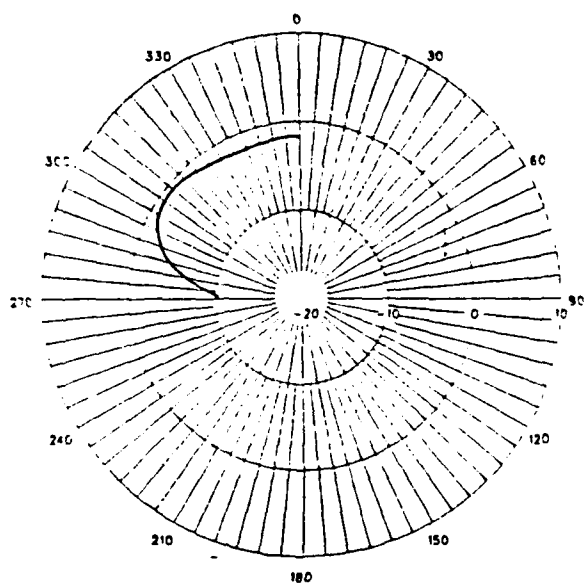
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

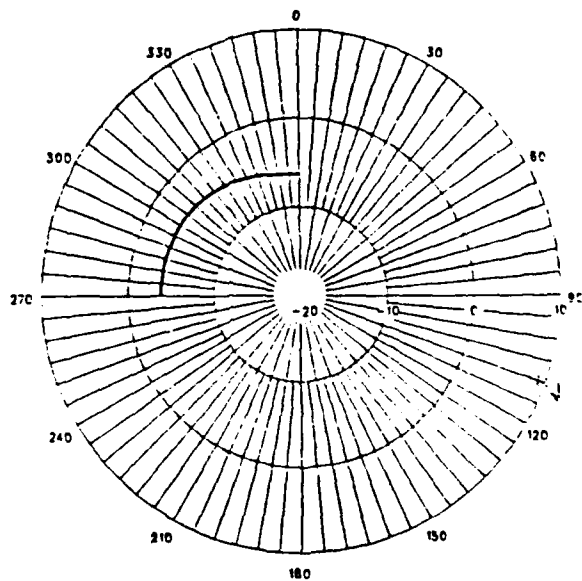
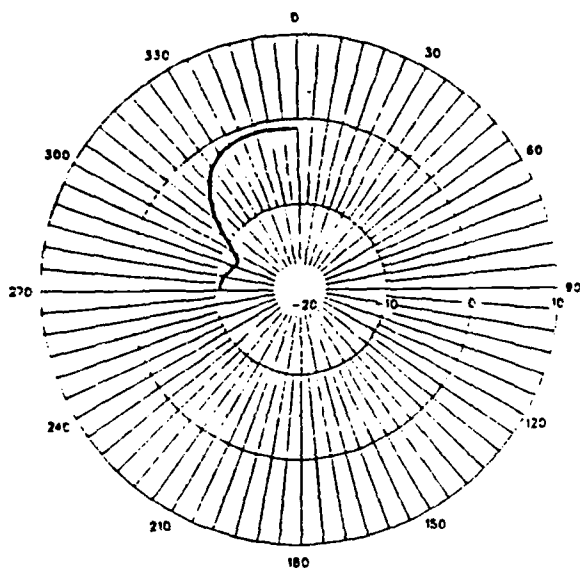
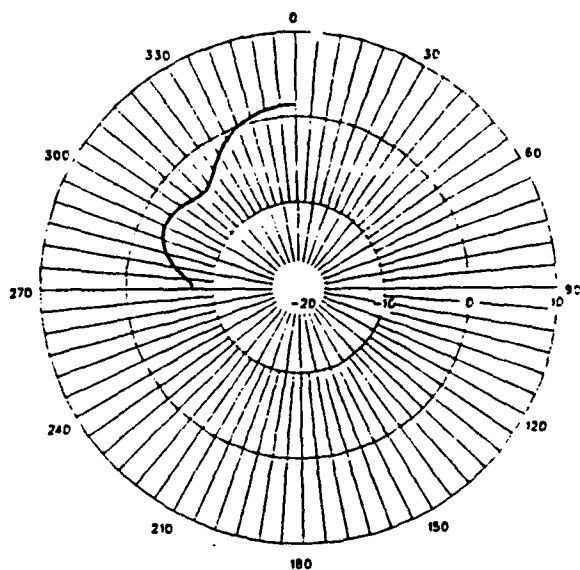


Figure 190. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 17 MHz

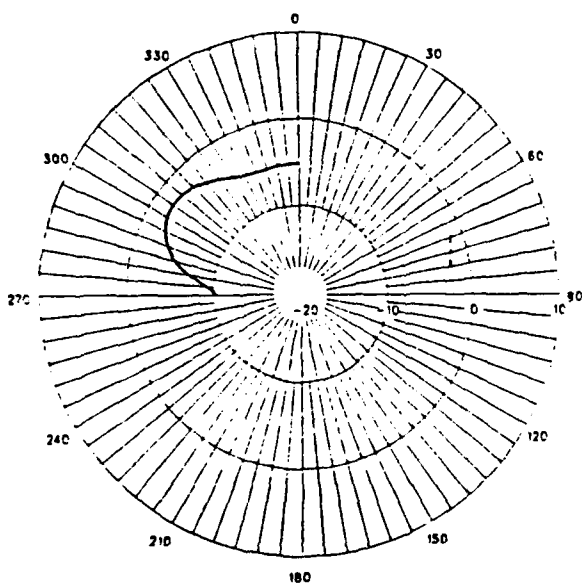
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

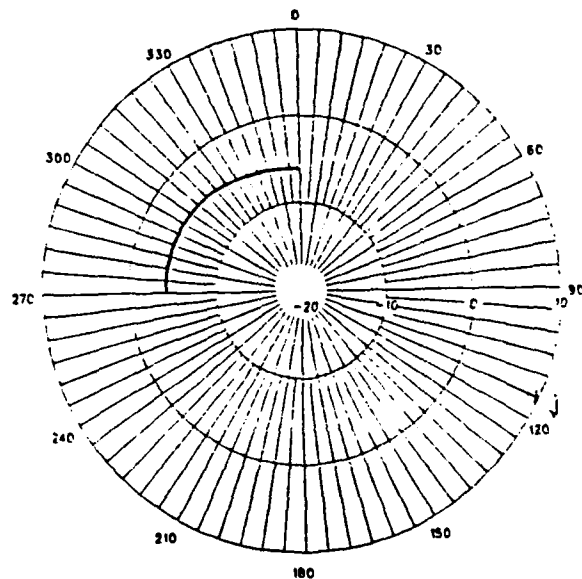


Figure 191. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 17 MHz

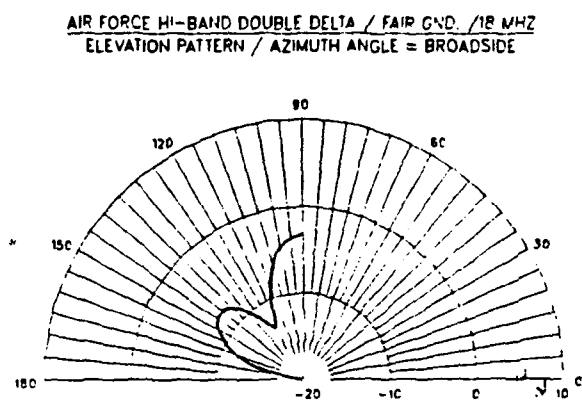
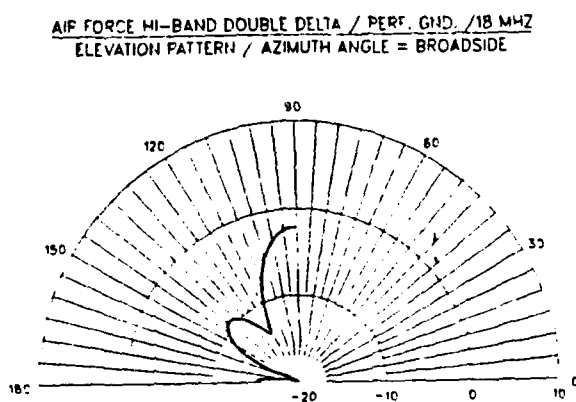
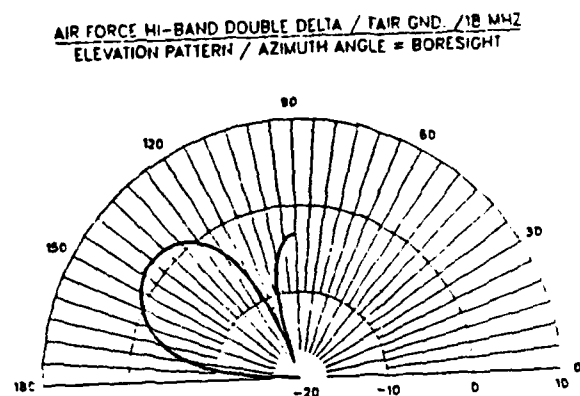
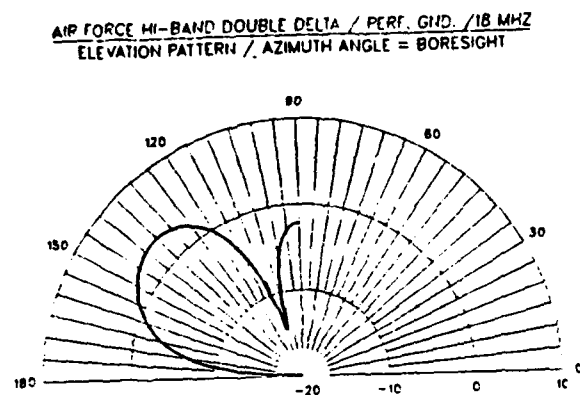


Figure 192. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 18 MHz

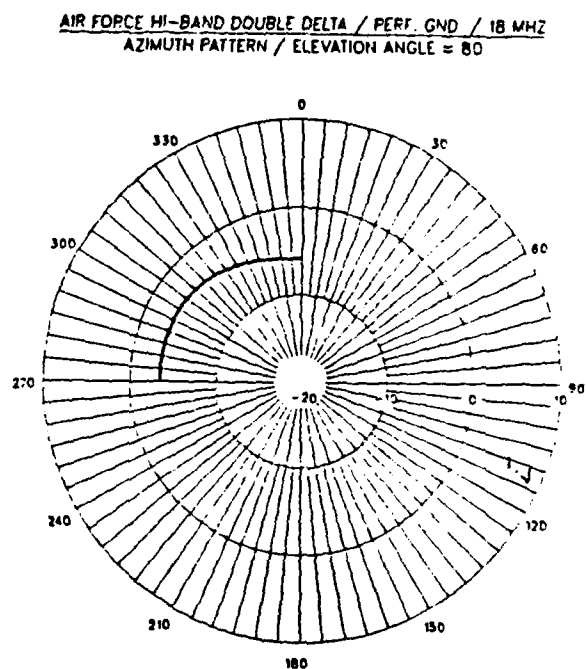
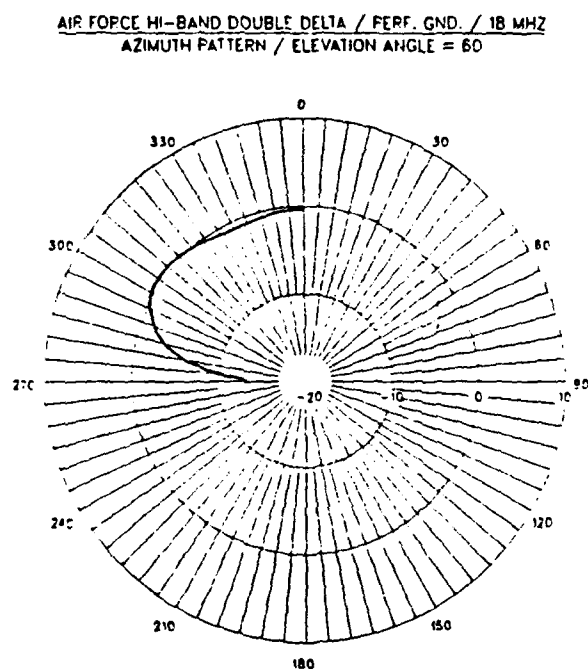
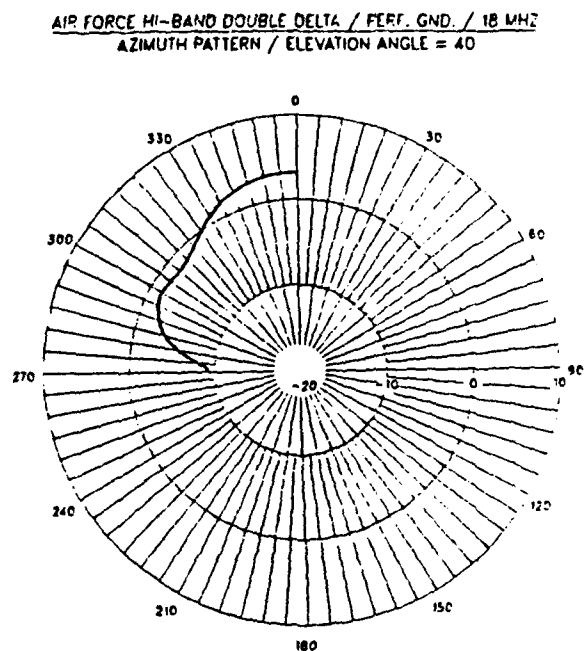
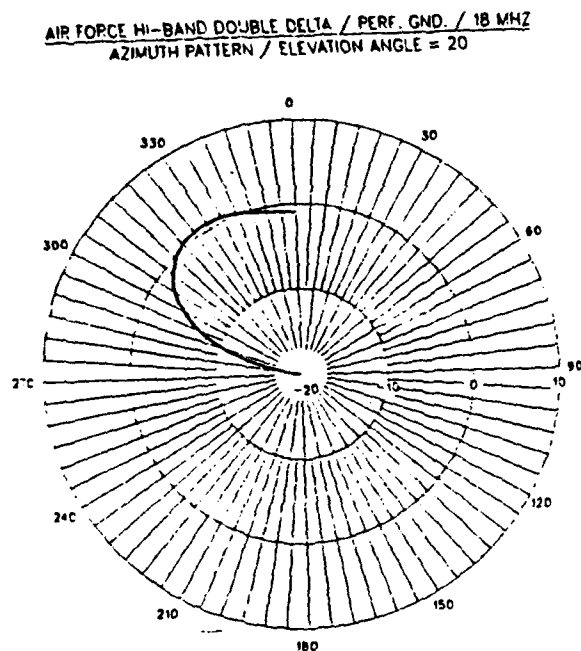
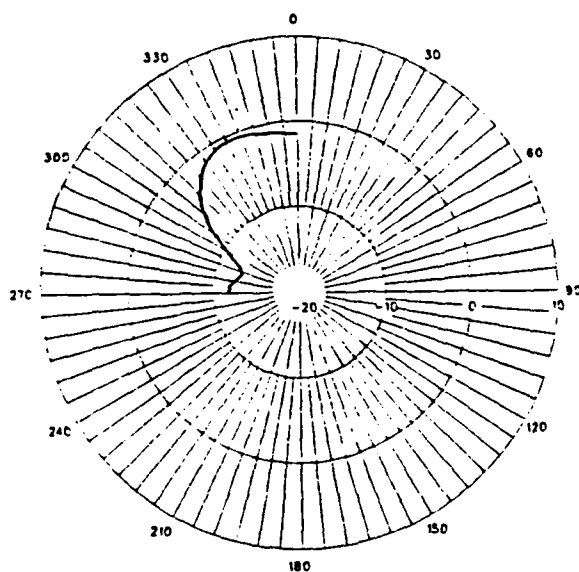
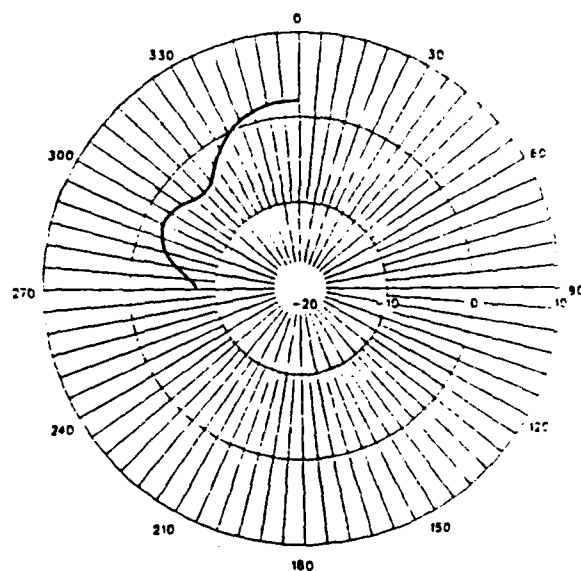


Figure 193. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 18 MHz

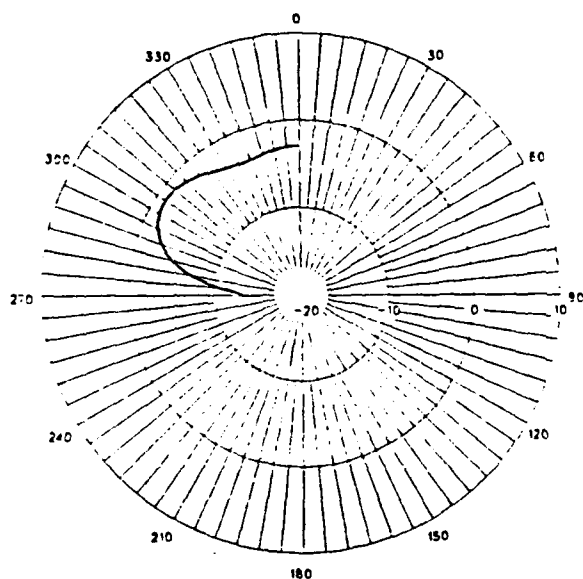
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

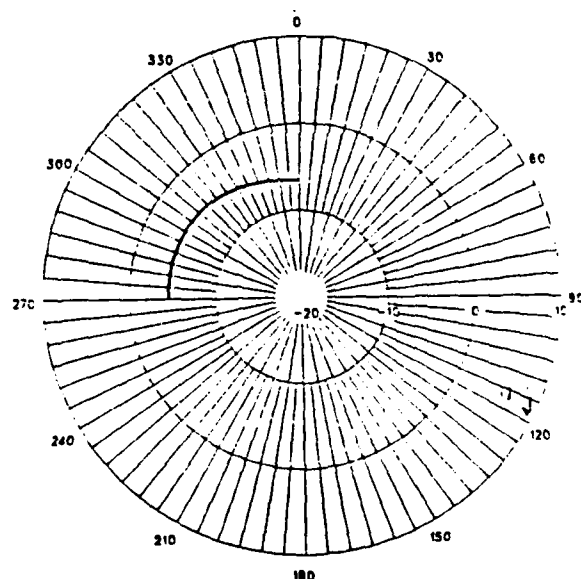
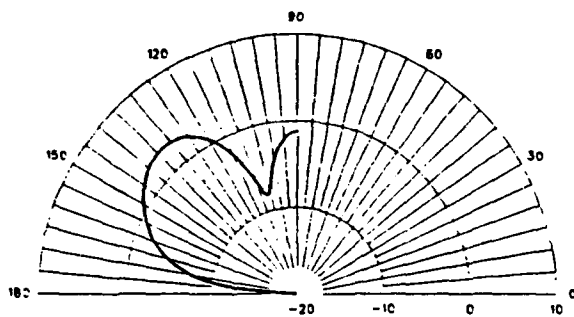
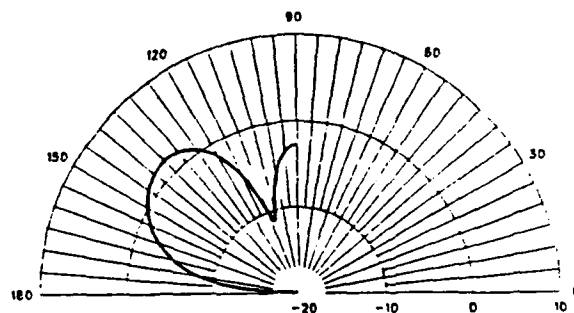


Figure 194. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 18 MHz

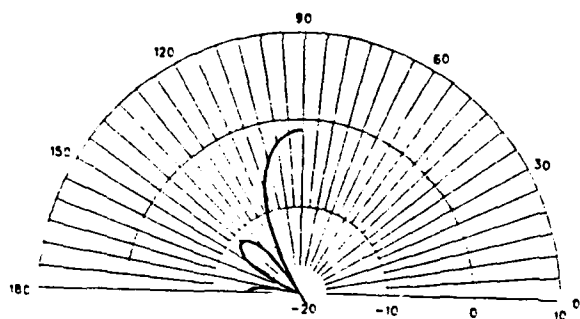
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 19 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 19 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 19 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 19 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

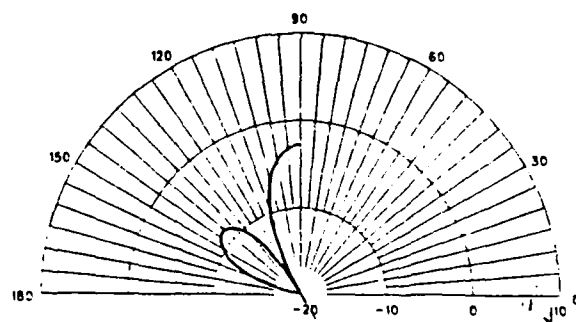
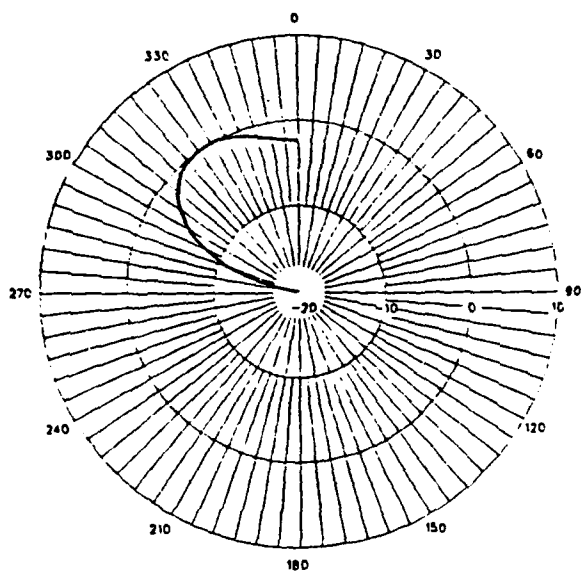
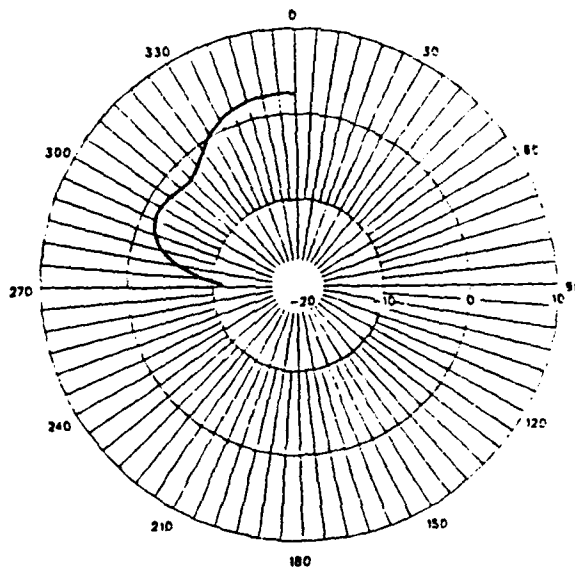


Figure 195. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 19 MHz

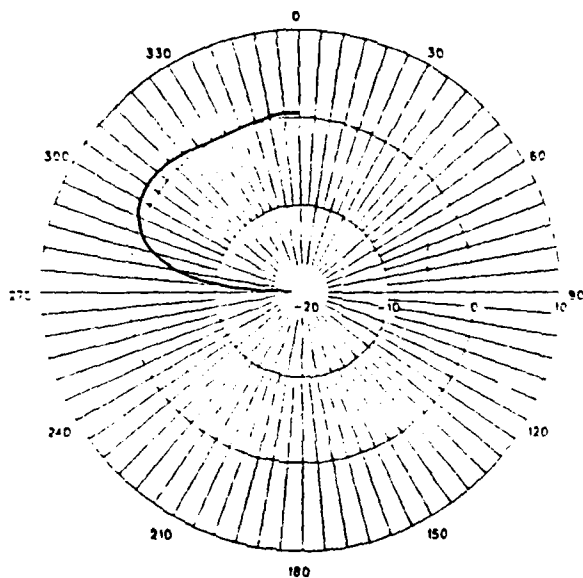
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 19 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 19 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 19 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 19 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 80

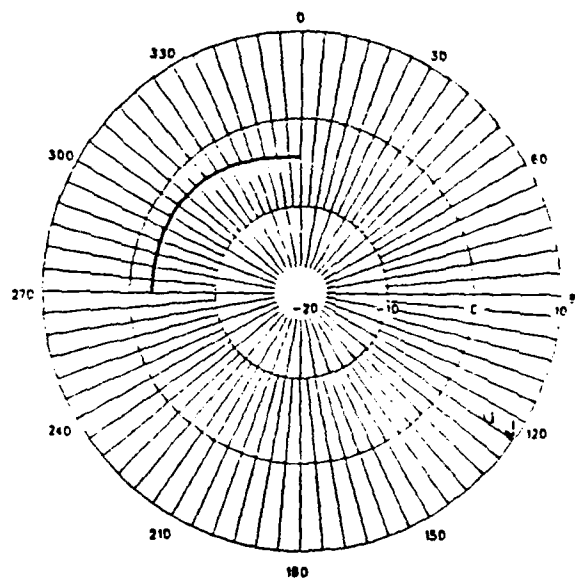
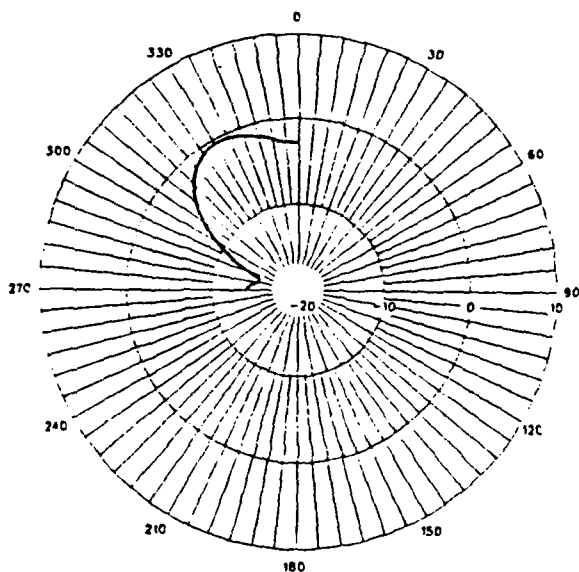
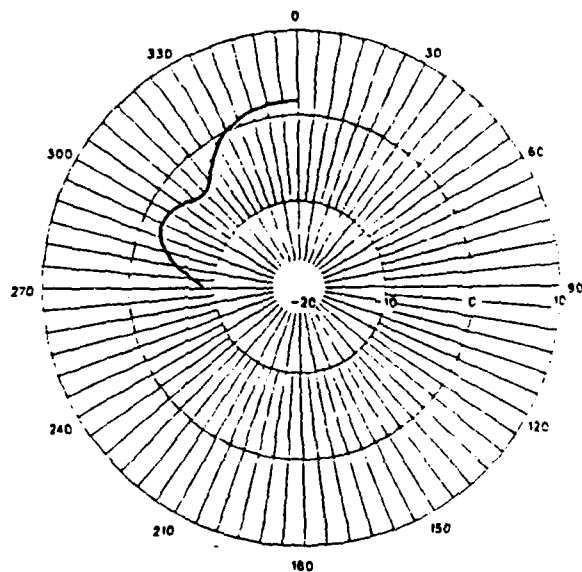


Figure 196. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 19 MHz

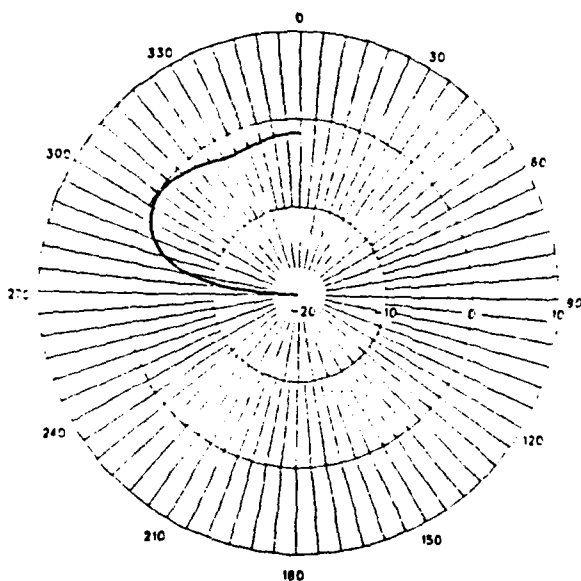
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

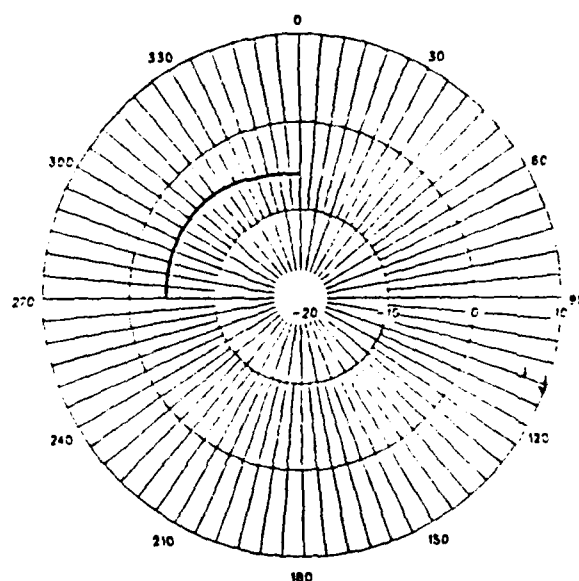
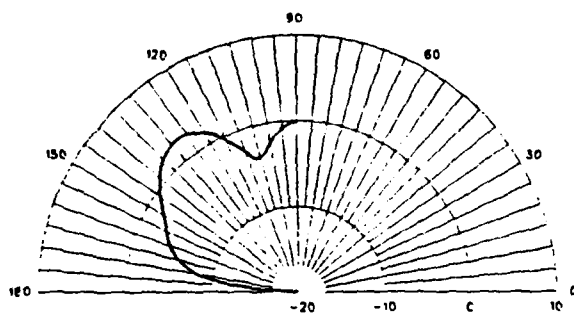
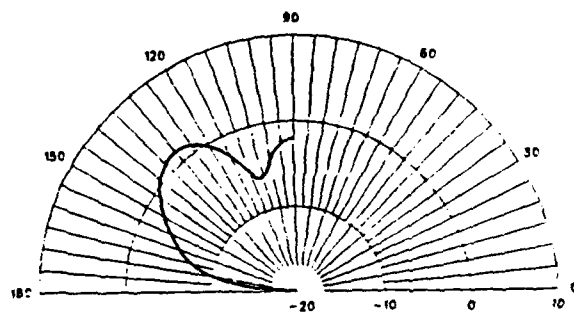


Figure 197. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 19 MHz

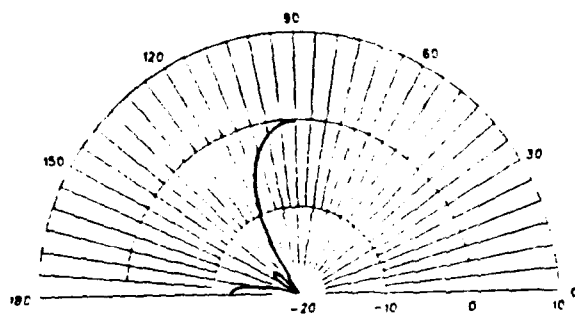
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 20 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 20 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 20 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 20 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

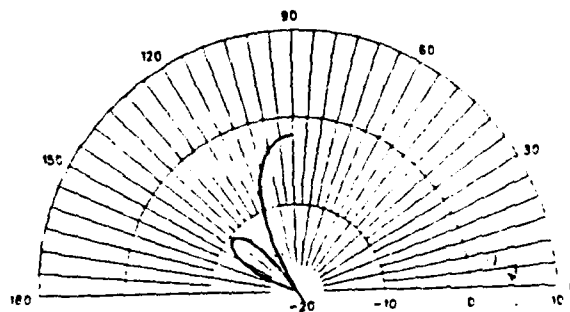
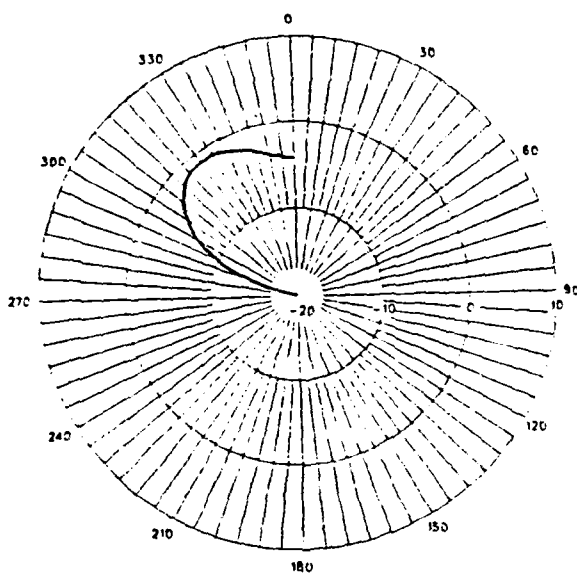
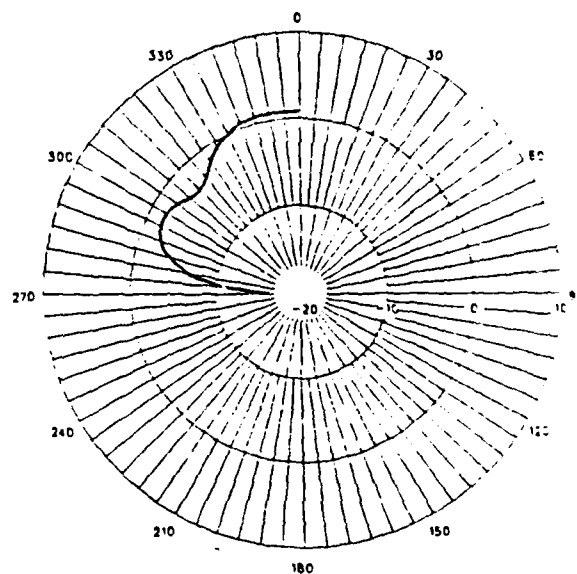


Figure 198. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 20 MHz

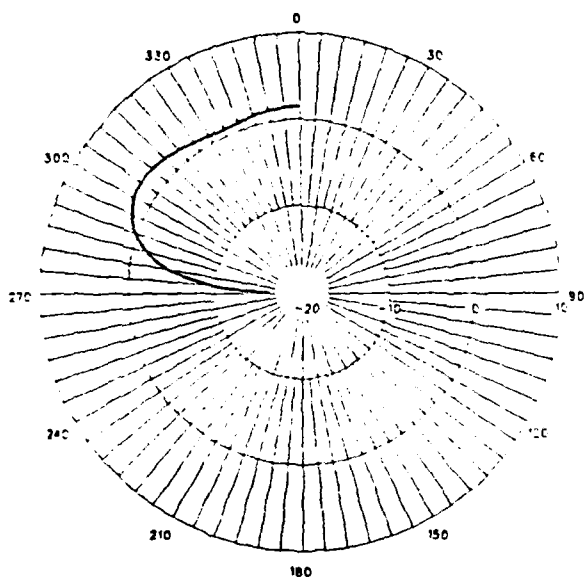
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 20 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 20 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 20 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 20 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 80

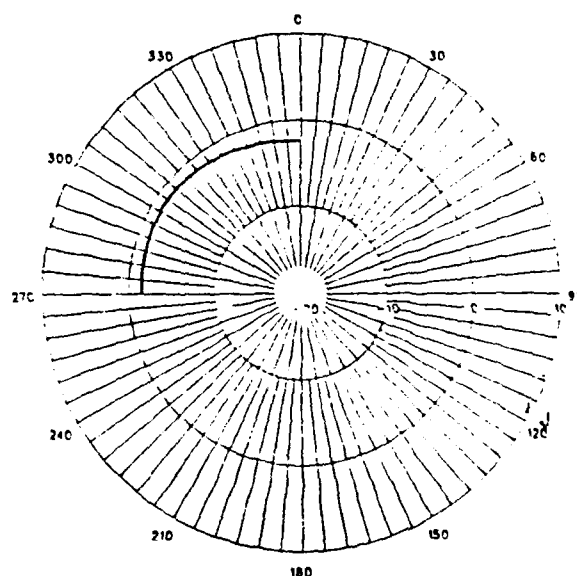
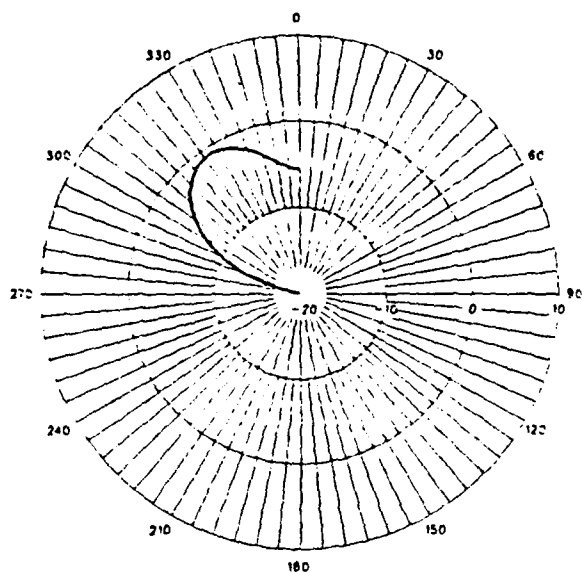
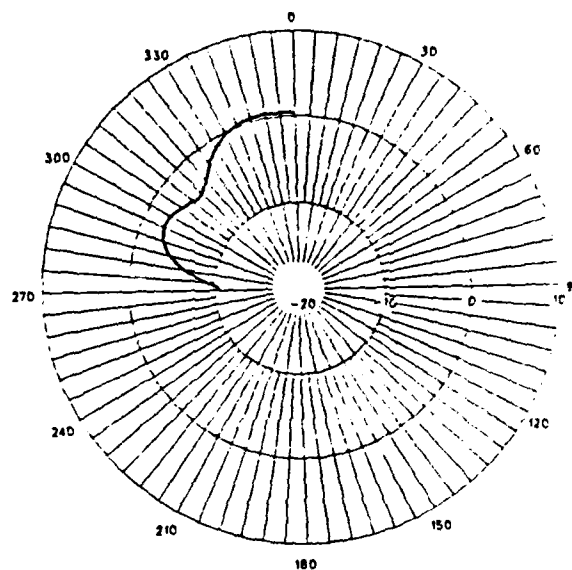


Figure 199. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 20 MHz

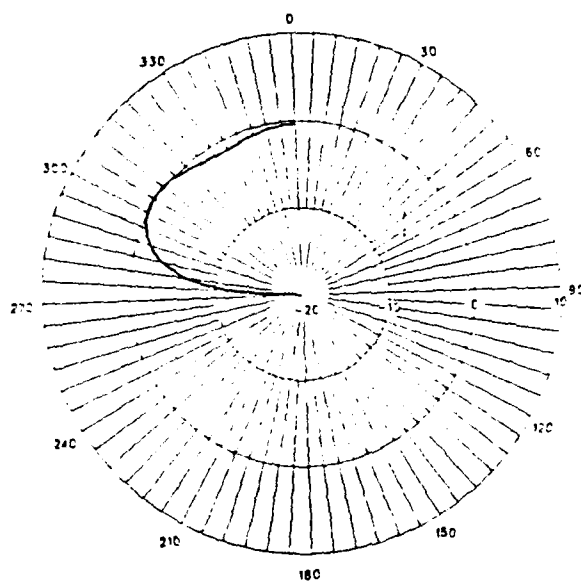
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

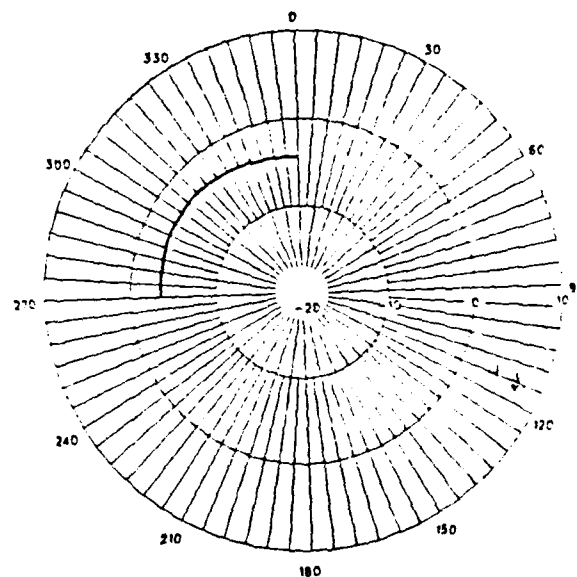
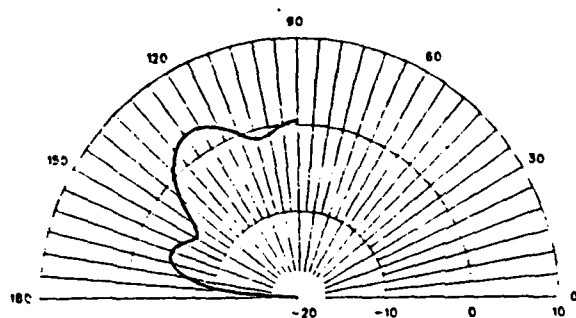
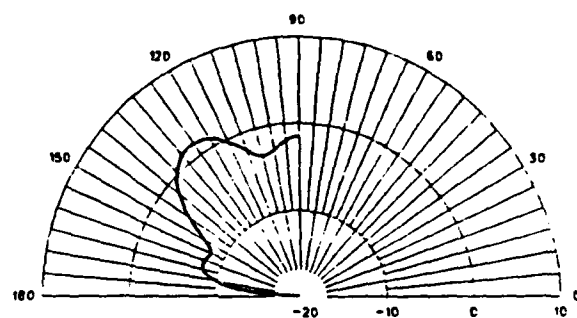


Figure 200. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 20 MHz

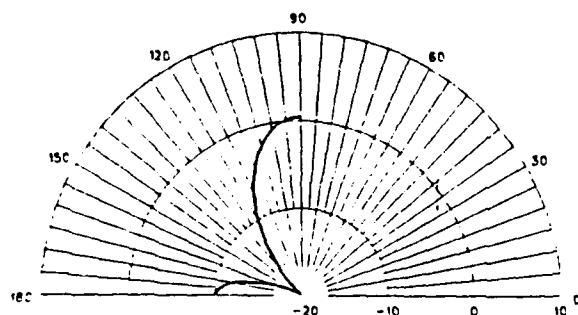
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 21 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 21 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 21 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 21 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

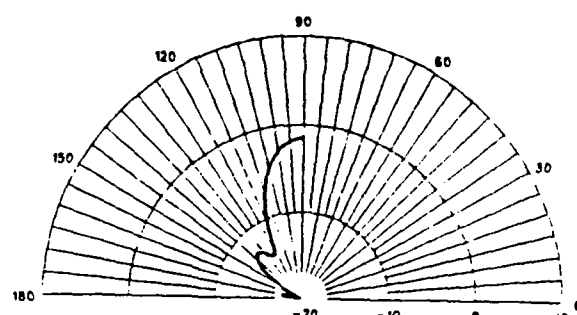
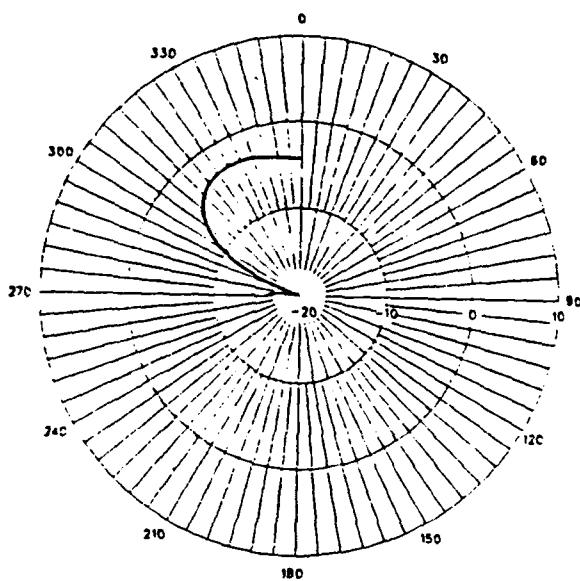
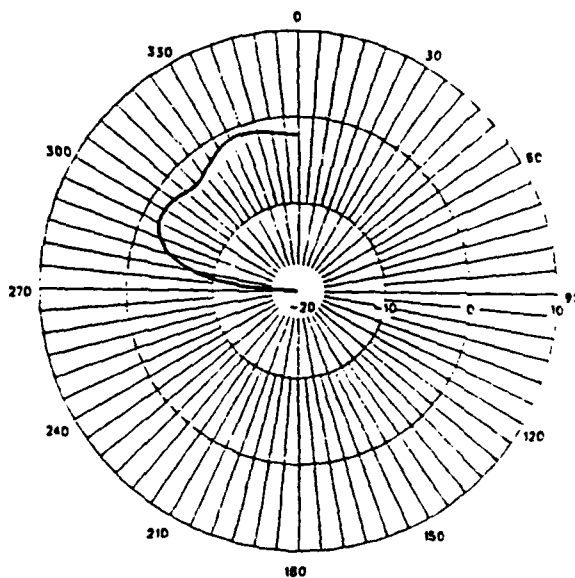


Figure 201. Elevation patterns of the Air Force highband DD antenna over perfect ground and fair ground at 21 MHz

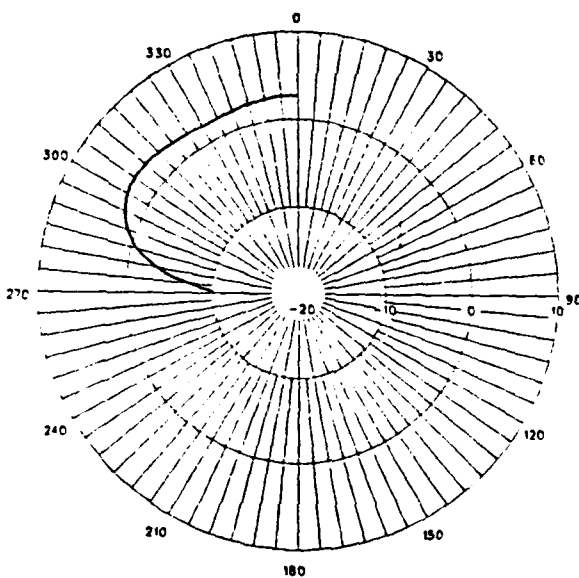
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

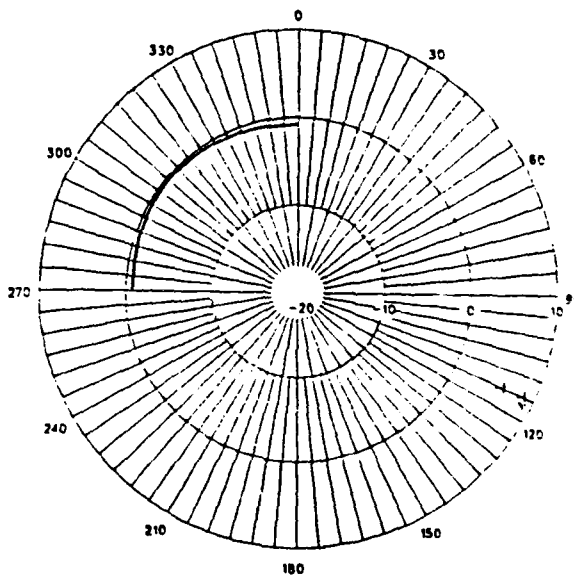
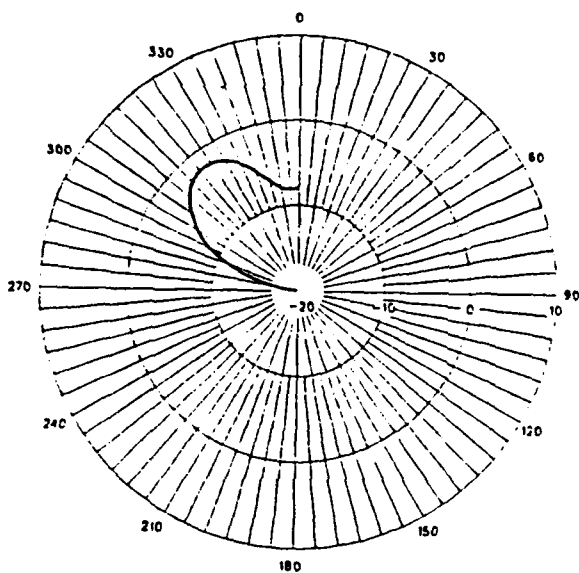
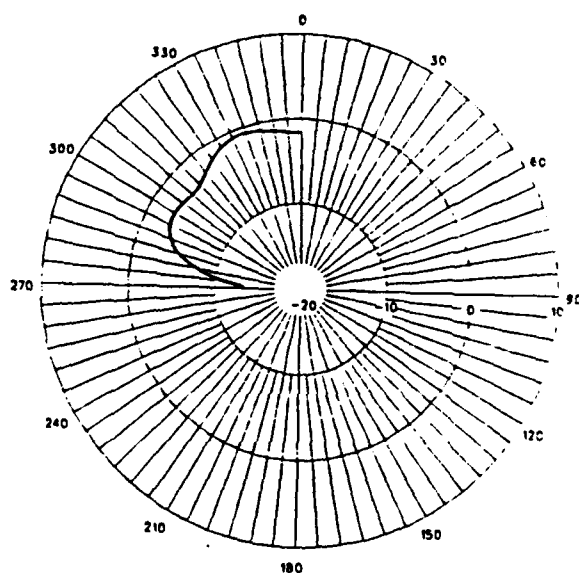


Figure 202. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 21 MHz

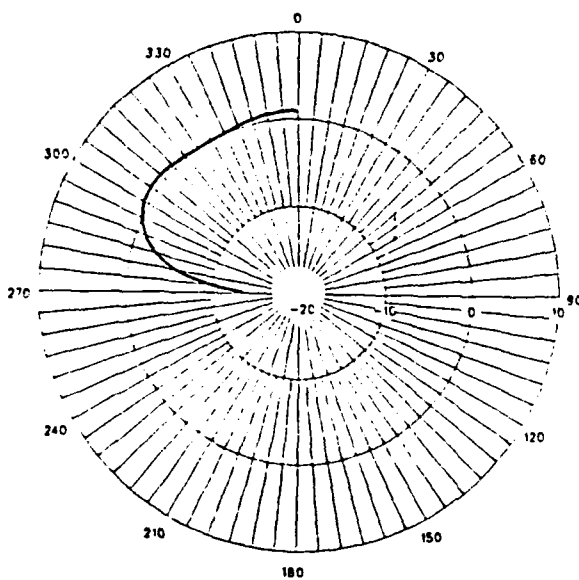
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

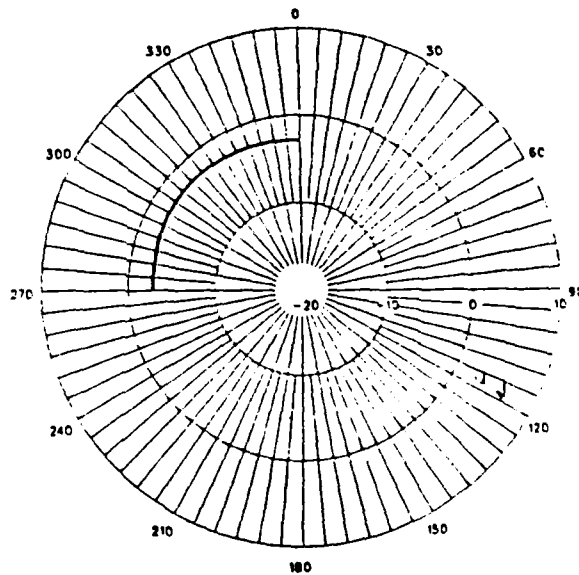


Figure 203. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 21 MHz

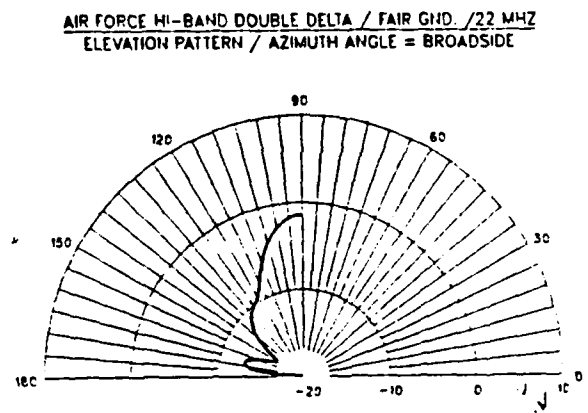
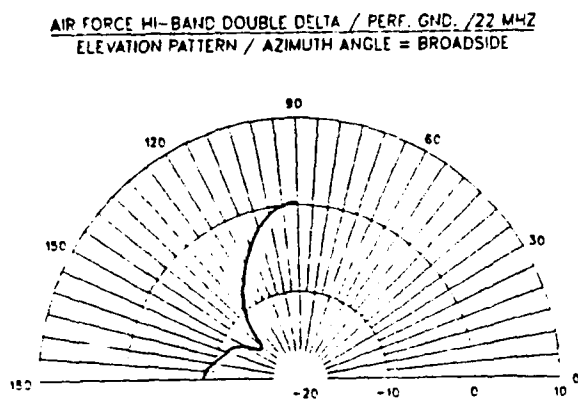
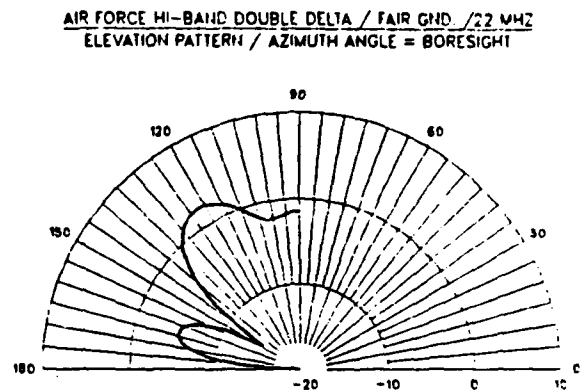
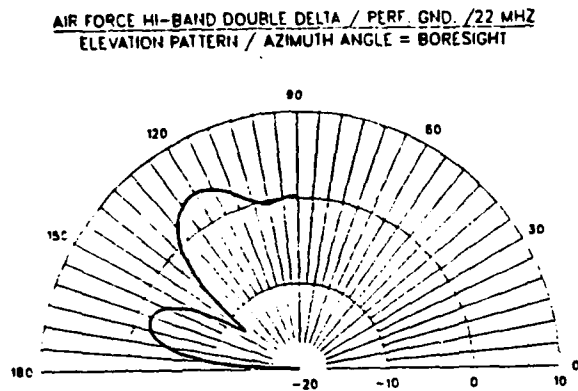
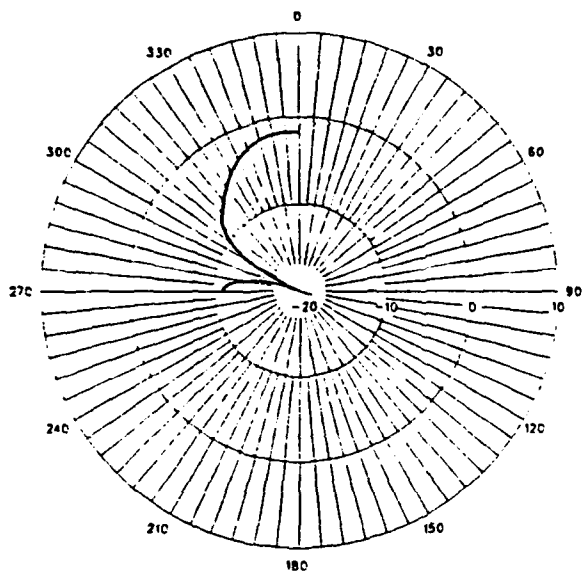
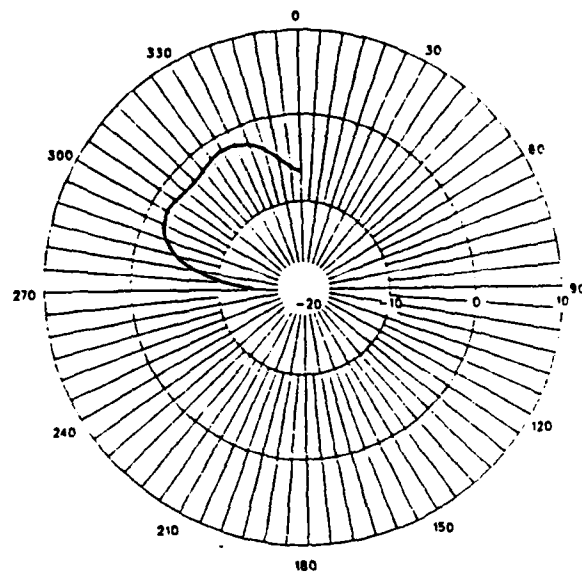


Figure 204. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 22 MHz

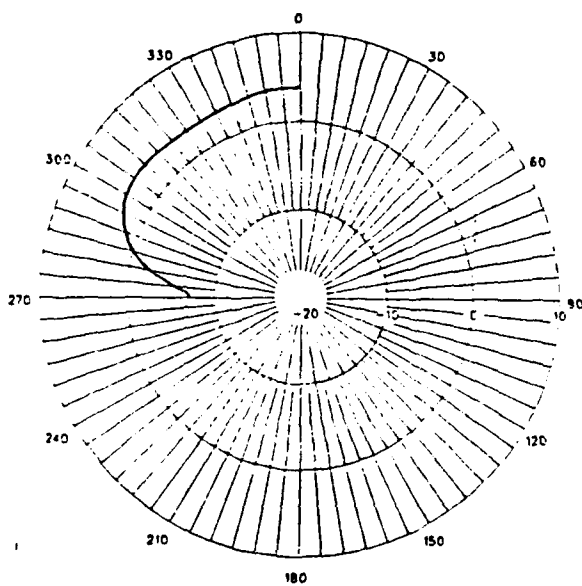
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

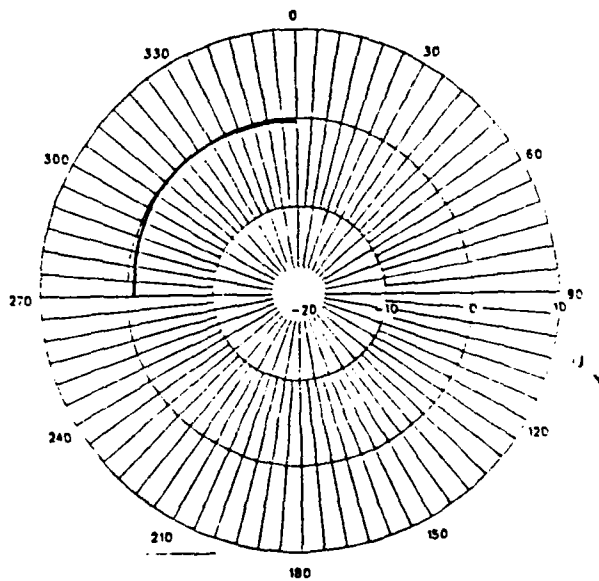
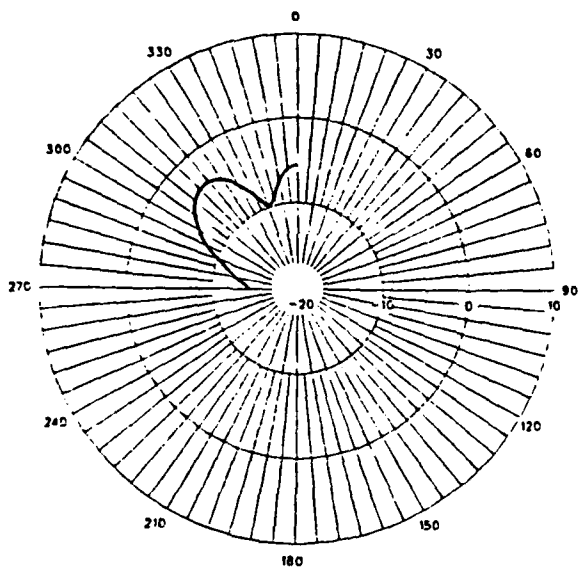
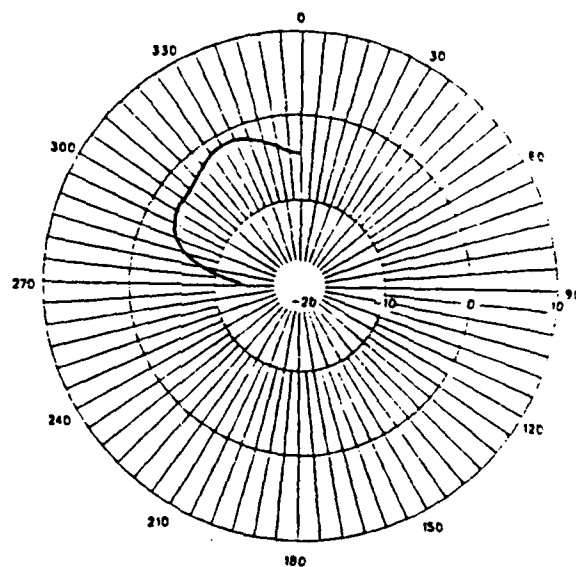


Figure 205. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 22 MHz

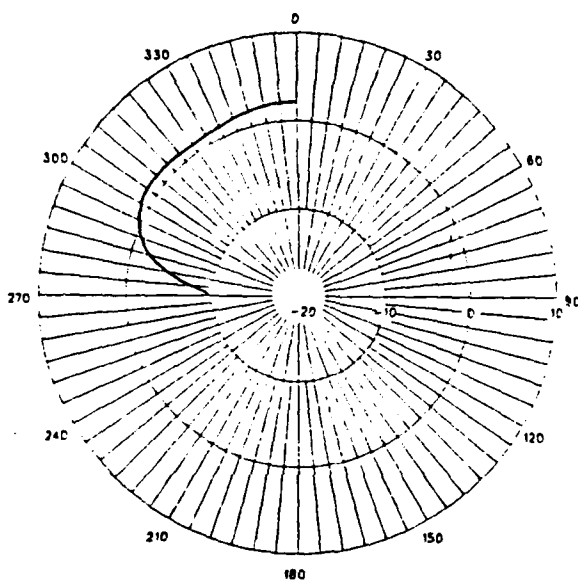
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

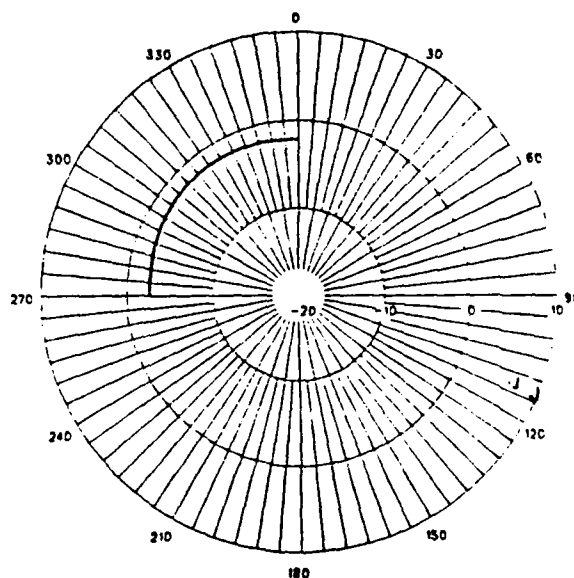


Figure 206. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 22 MHz

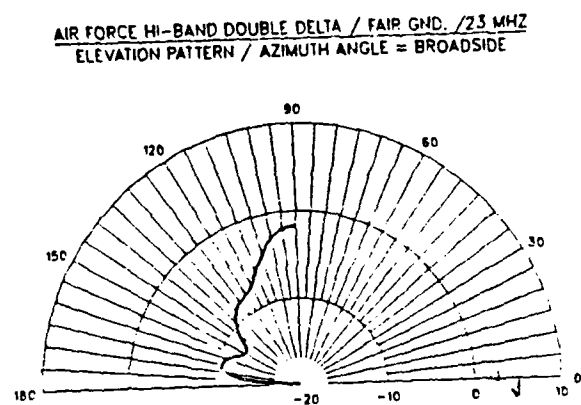
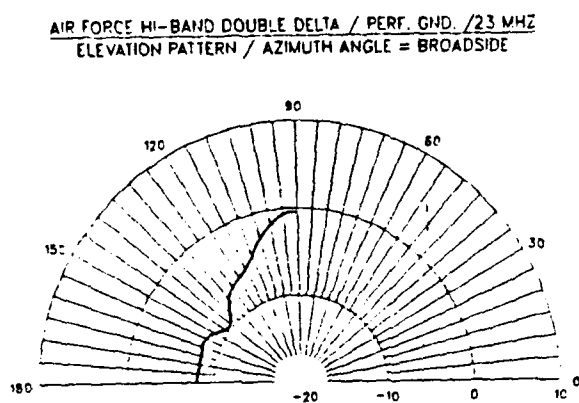
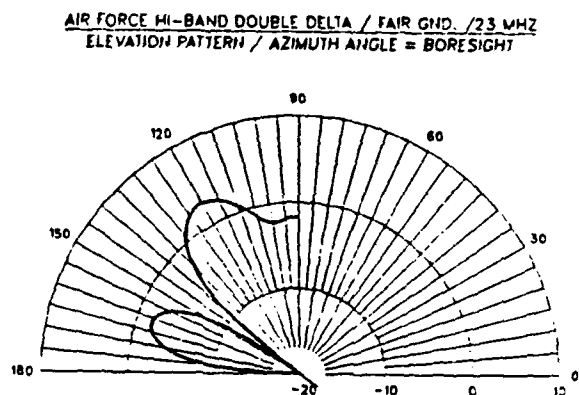
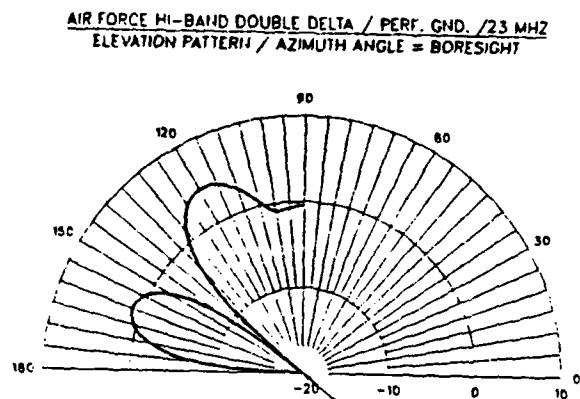
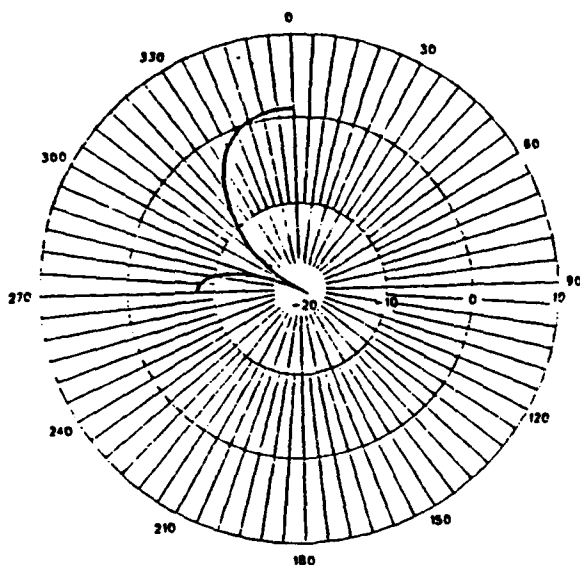
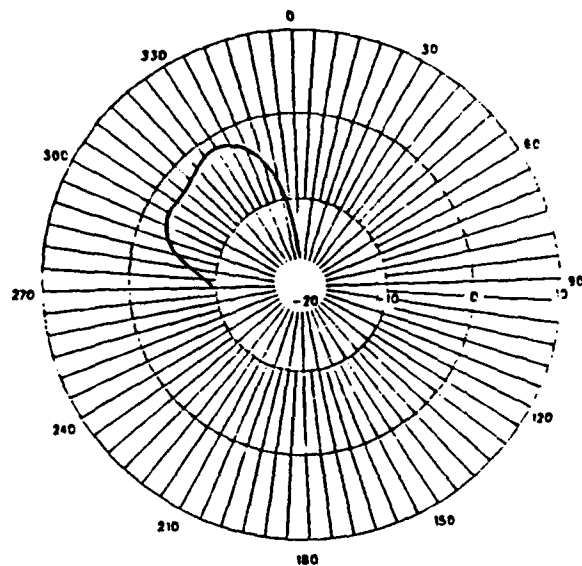


Figure 207. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 23 MHz

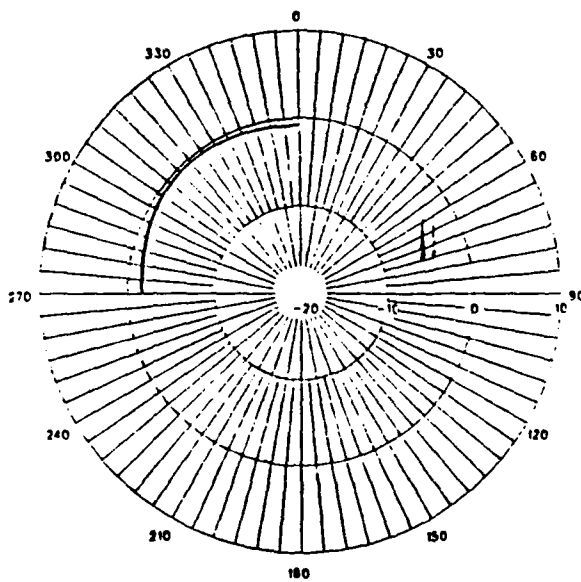
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

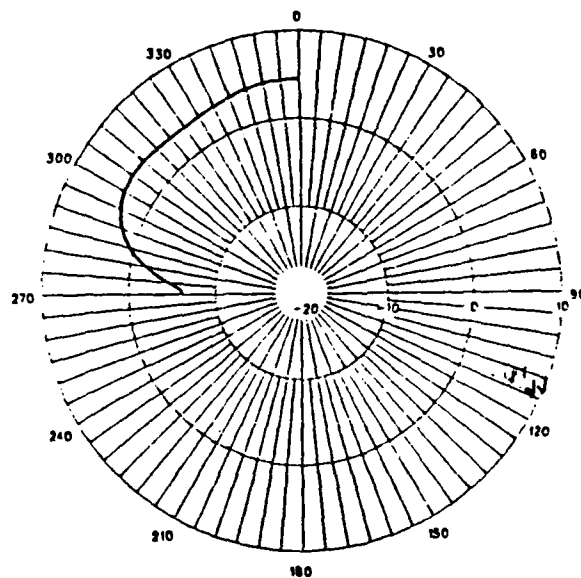
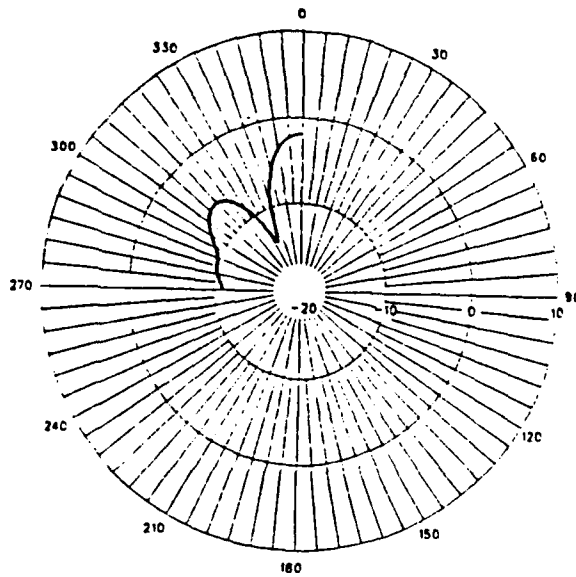
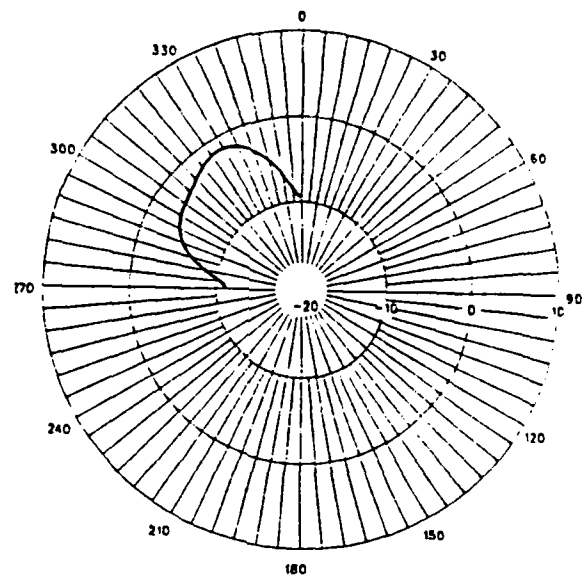


Figure 208. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 23 MHz

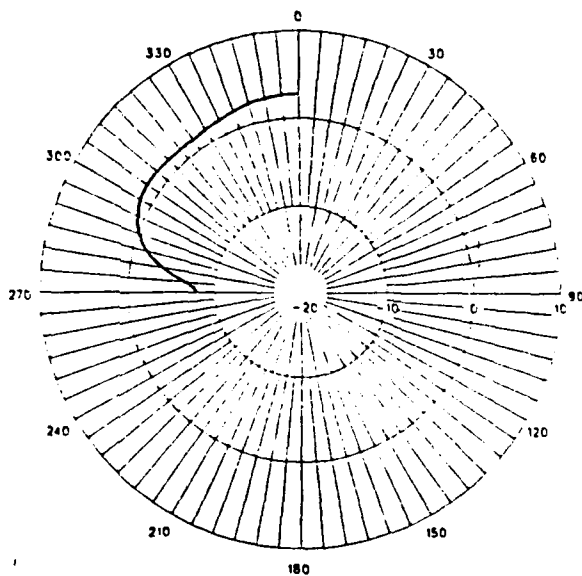
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 23 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 23 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 23 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 23 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 80

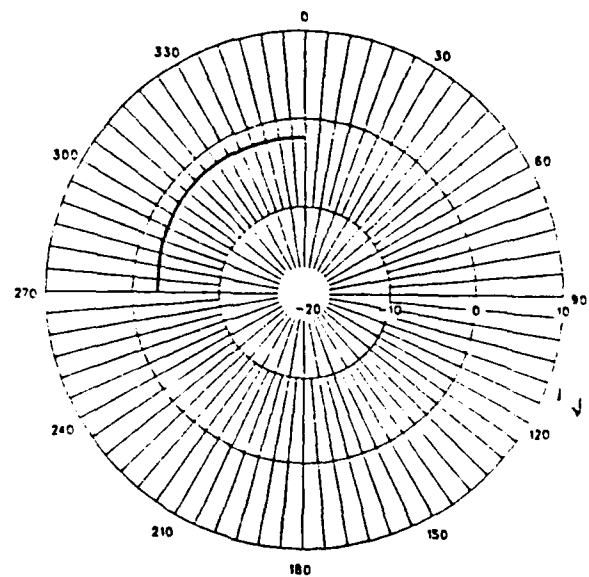


Figure 209. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 23 MHz

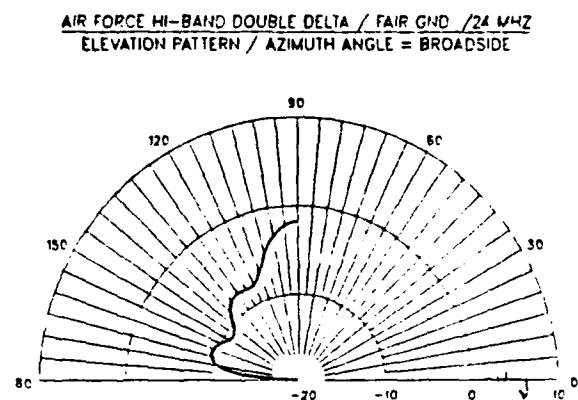
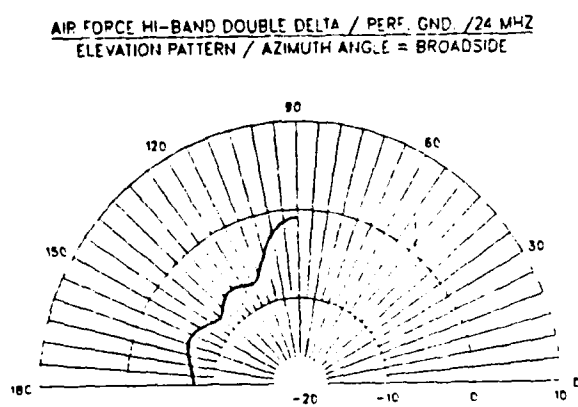
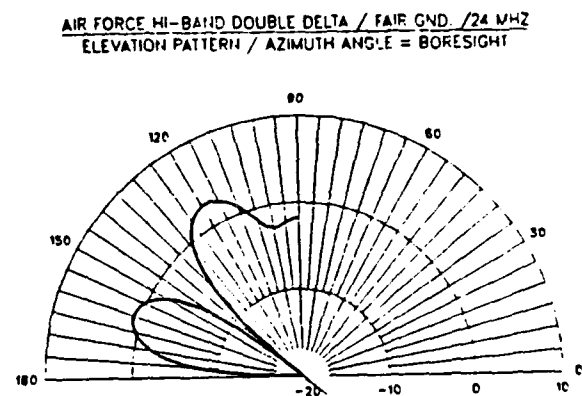
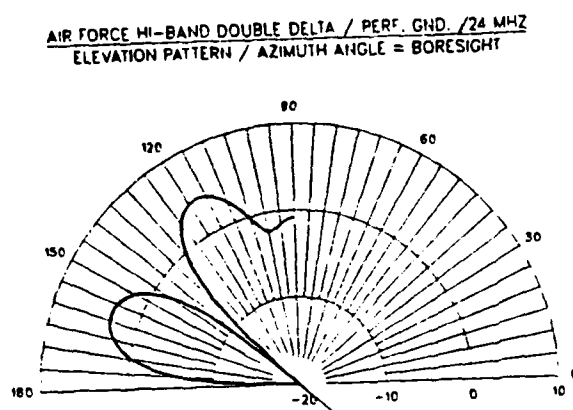
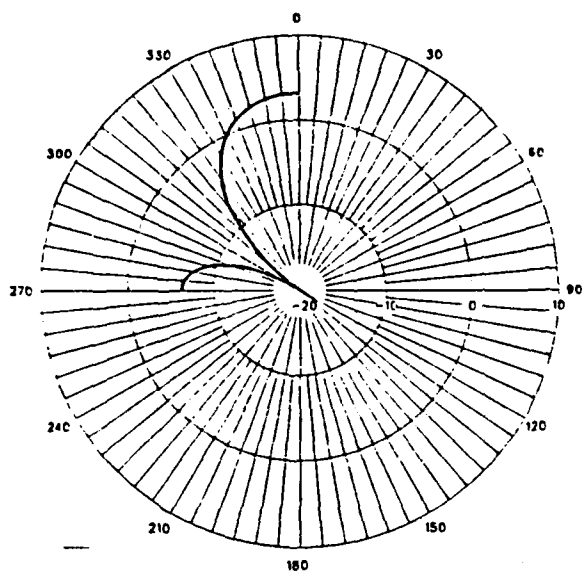
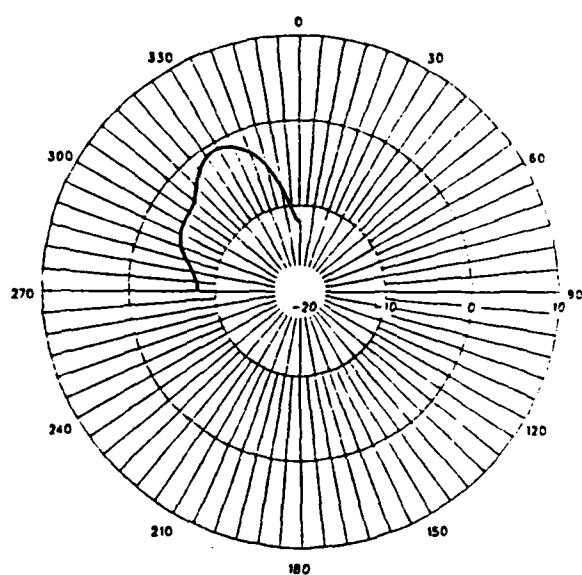


Figure 210. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 24 MHz

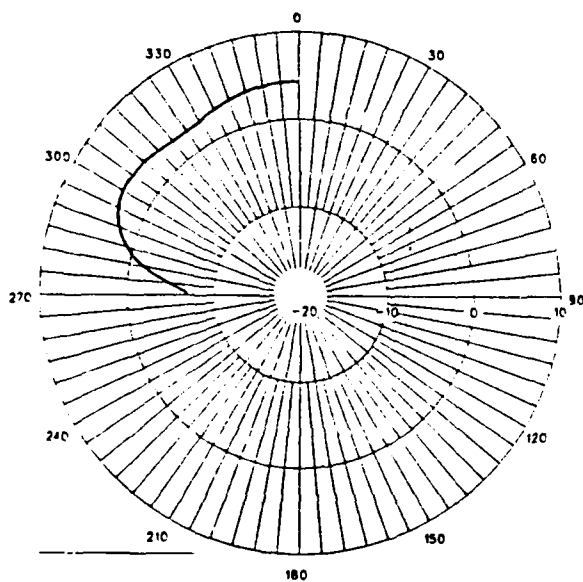
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

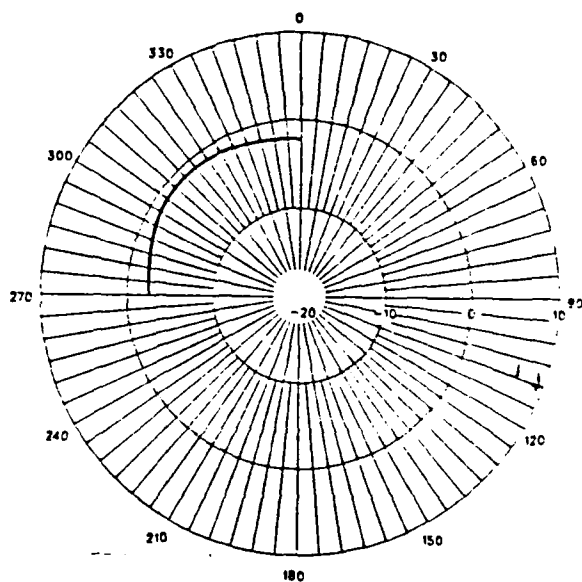
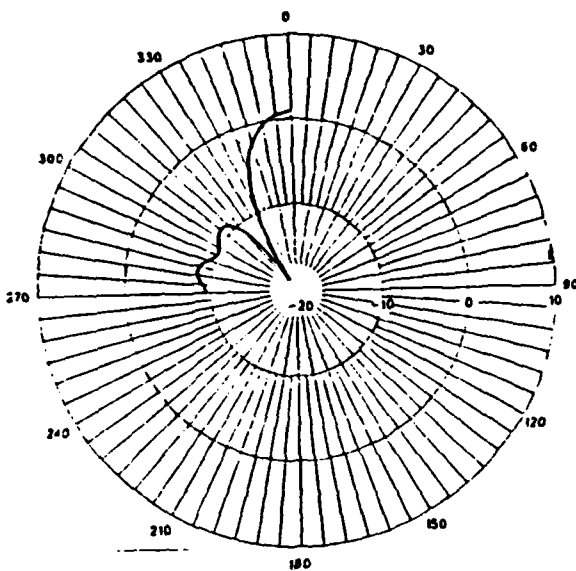
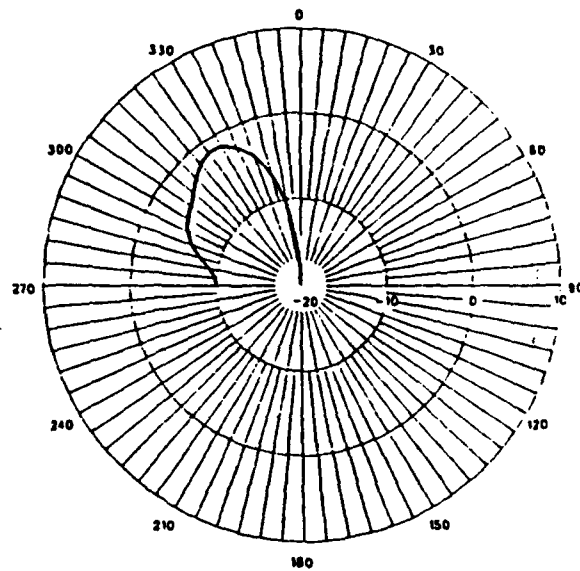


Figure 211. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 24 MHz

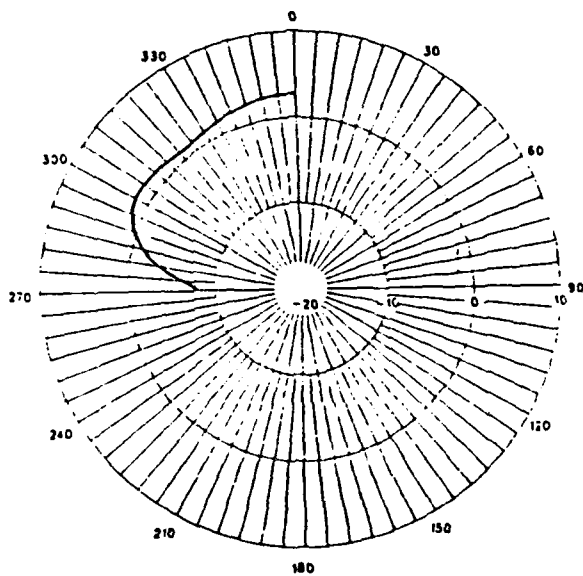
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

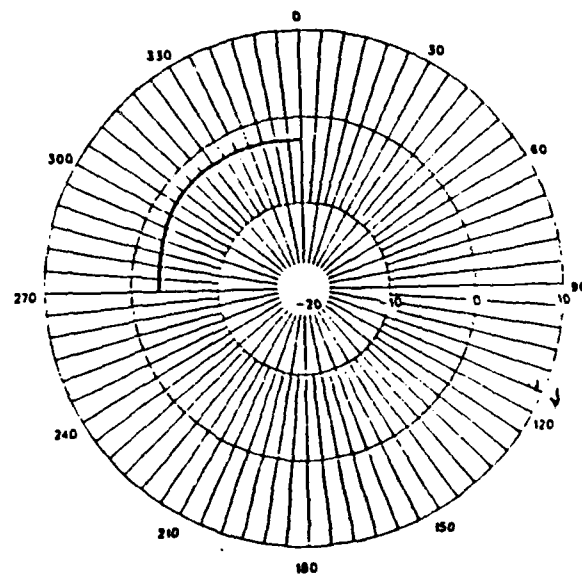
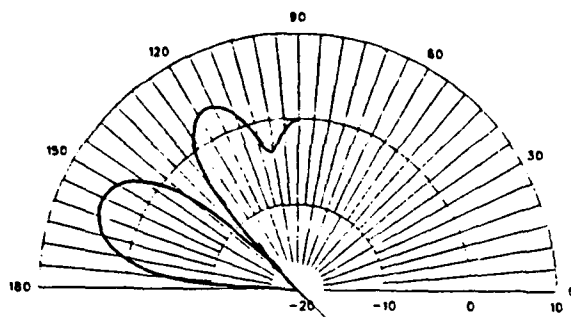
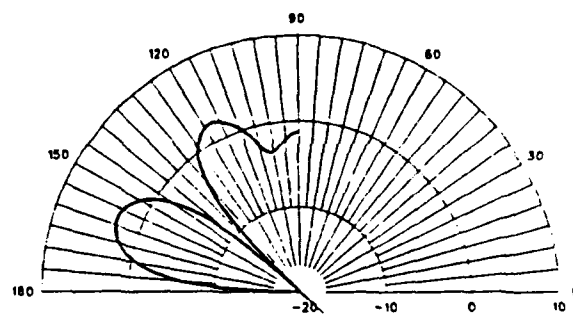


Figure 212. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 24 MHz

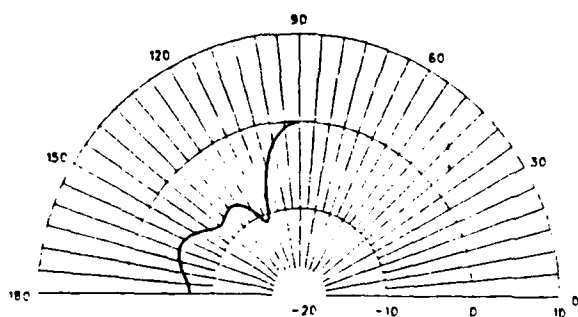
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. /25 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. /25 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. /25 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. /25 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

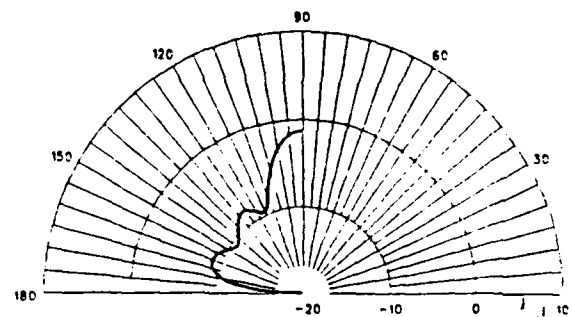
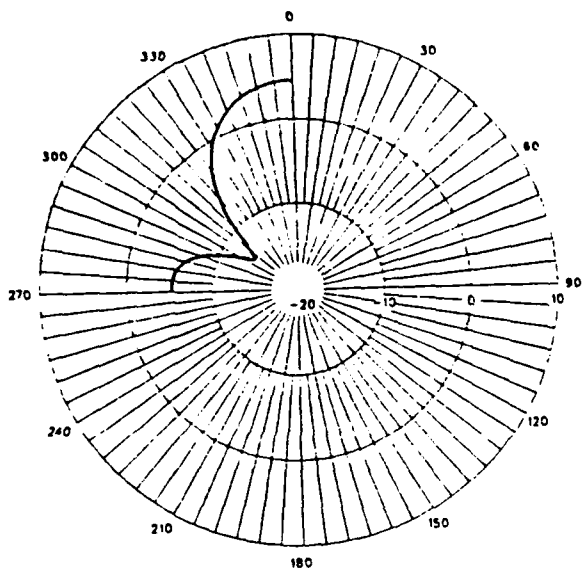
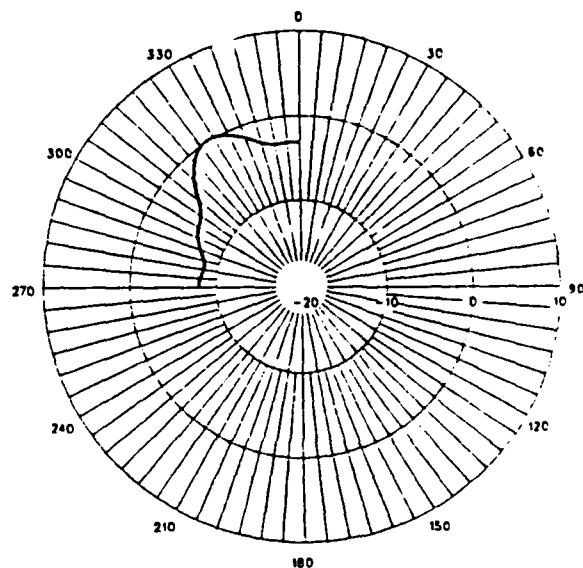


Figure 213. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 25 MHz

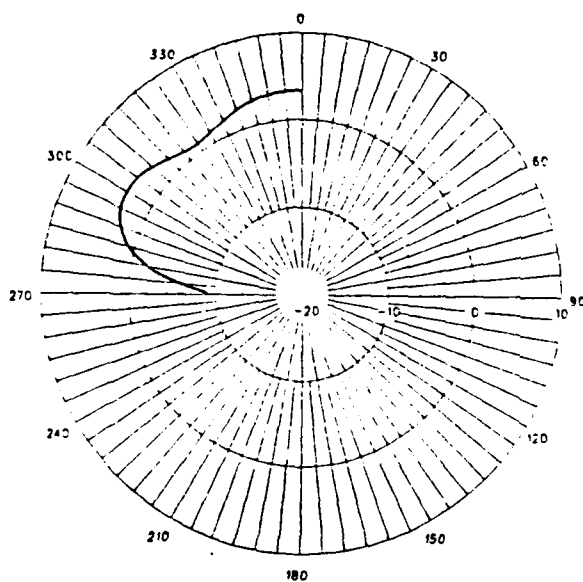
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

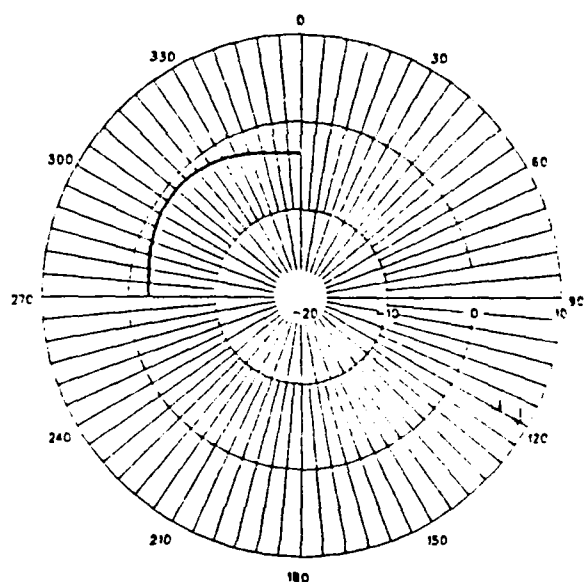
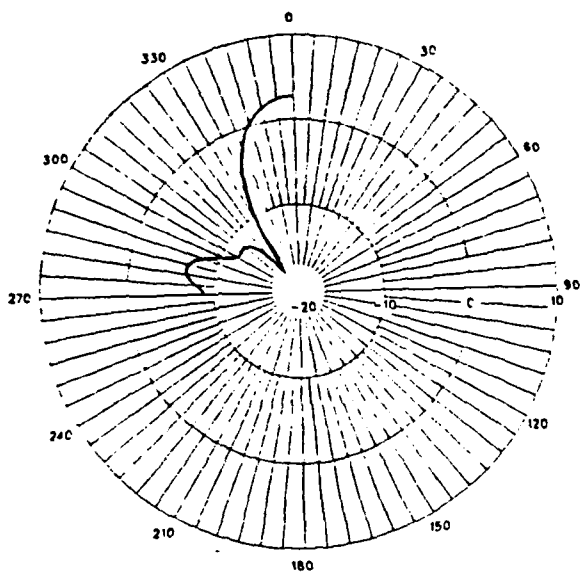
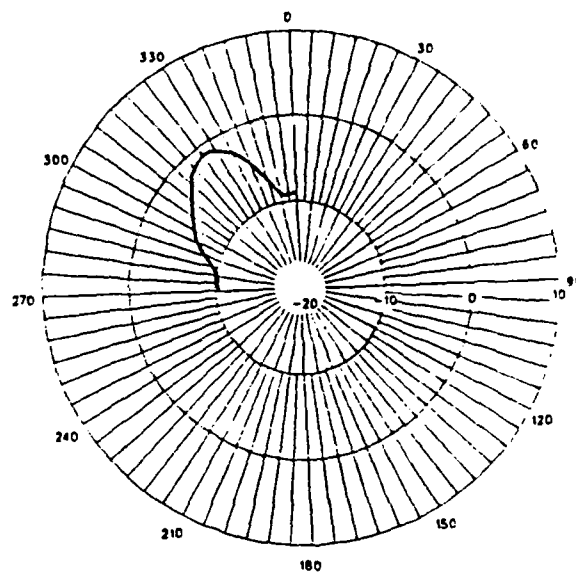


Figure 214. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 25 MHz

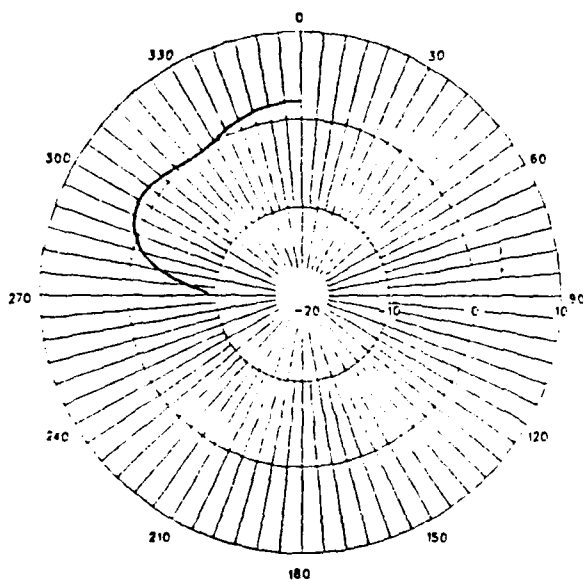
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 25 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 25 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 25 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 25 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 80

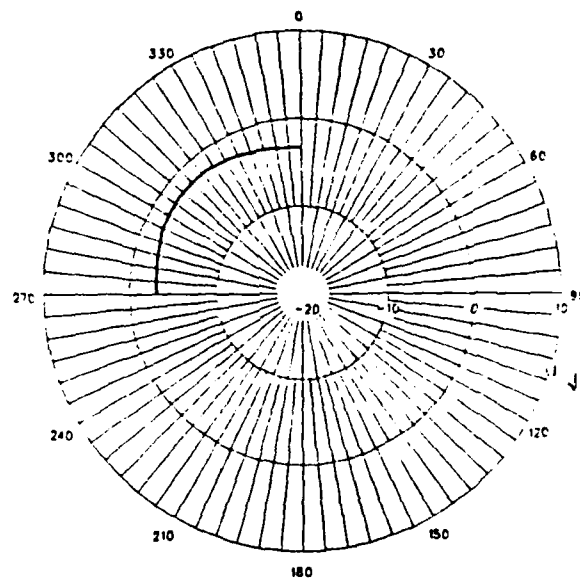
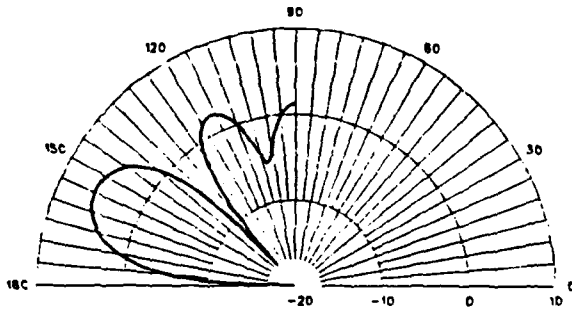
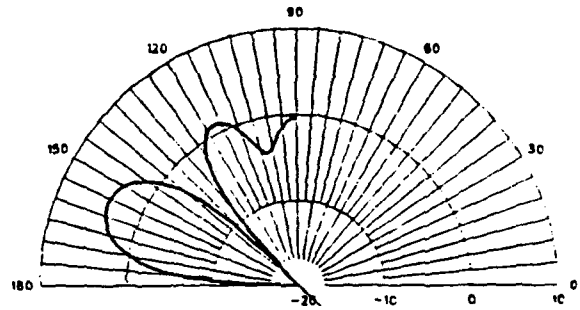


Figure 215. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 25 MHz

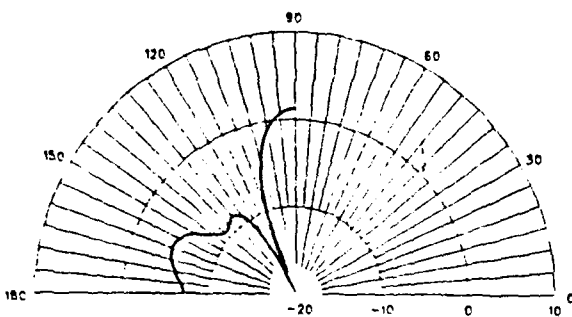
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 26 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 26 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 26 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 26 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

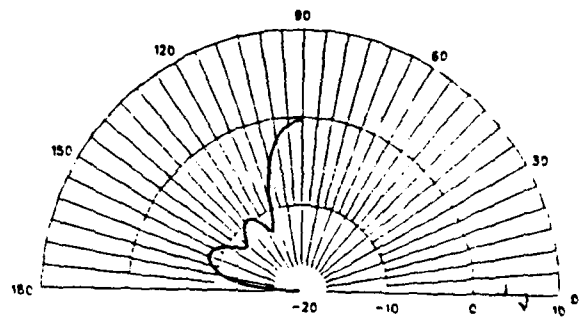
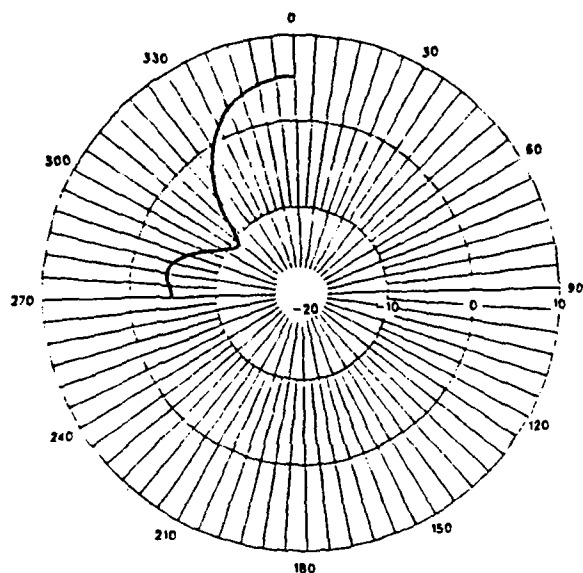
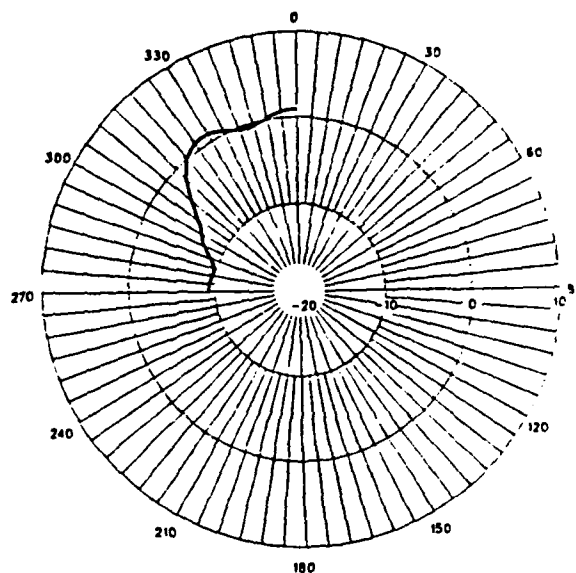


Figure 216. Elevation patterns of the Air Force highband DD antenna over perfect ground and fair ground at 26 MHz

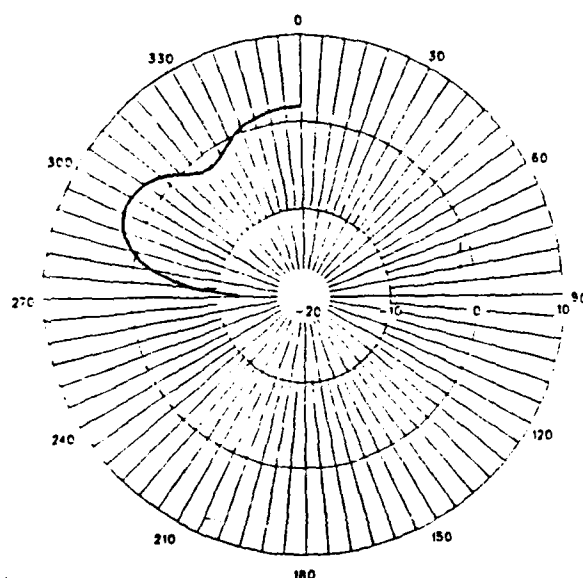
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

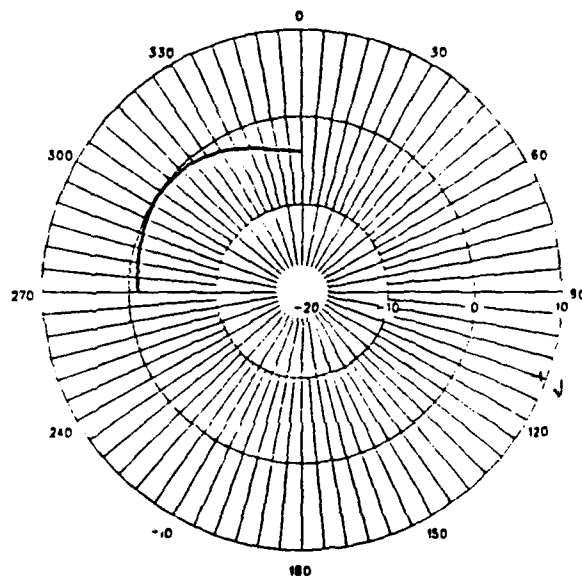
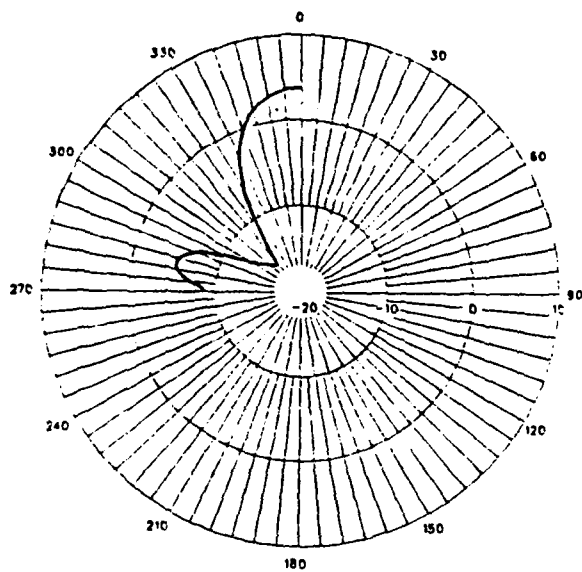
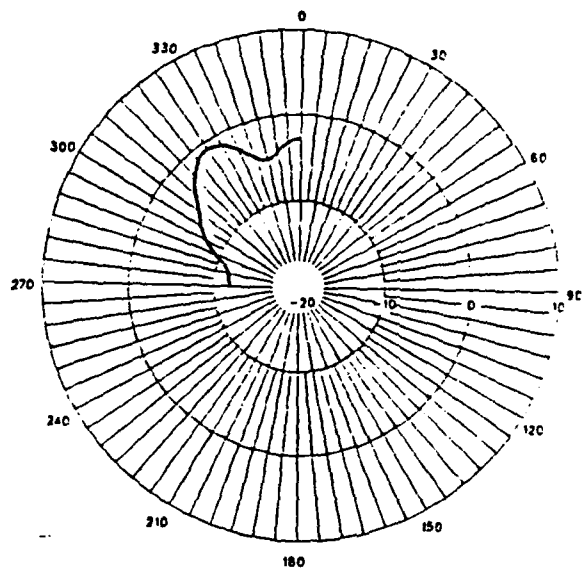


Figure 217. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 26 MHz

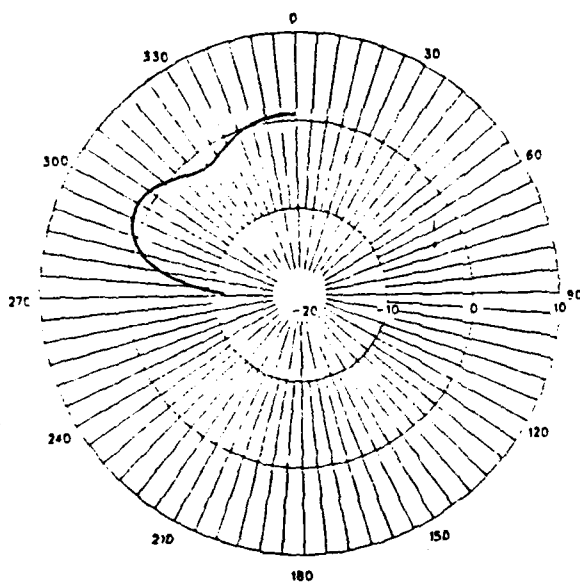
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

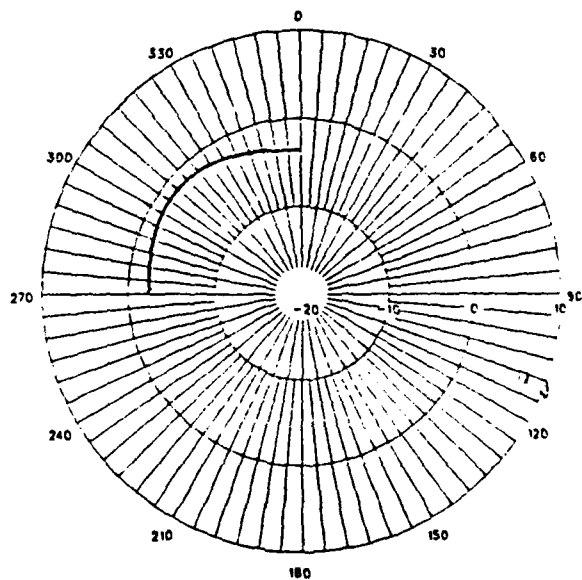


Figure 218. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 26 MHz

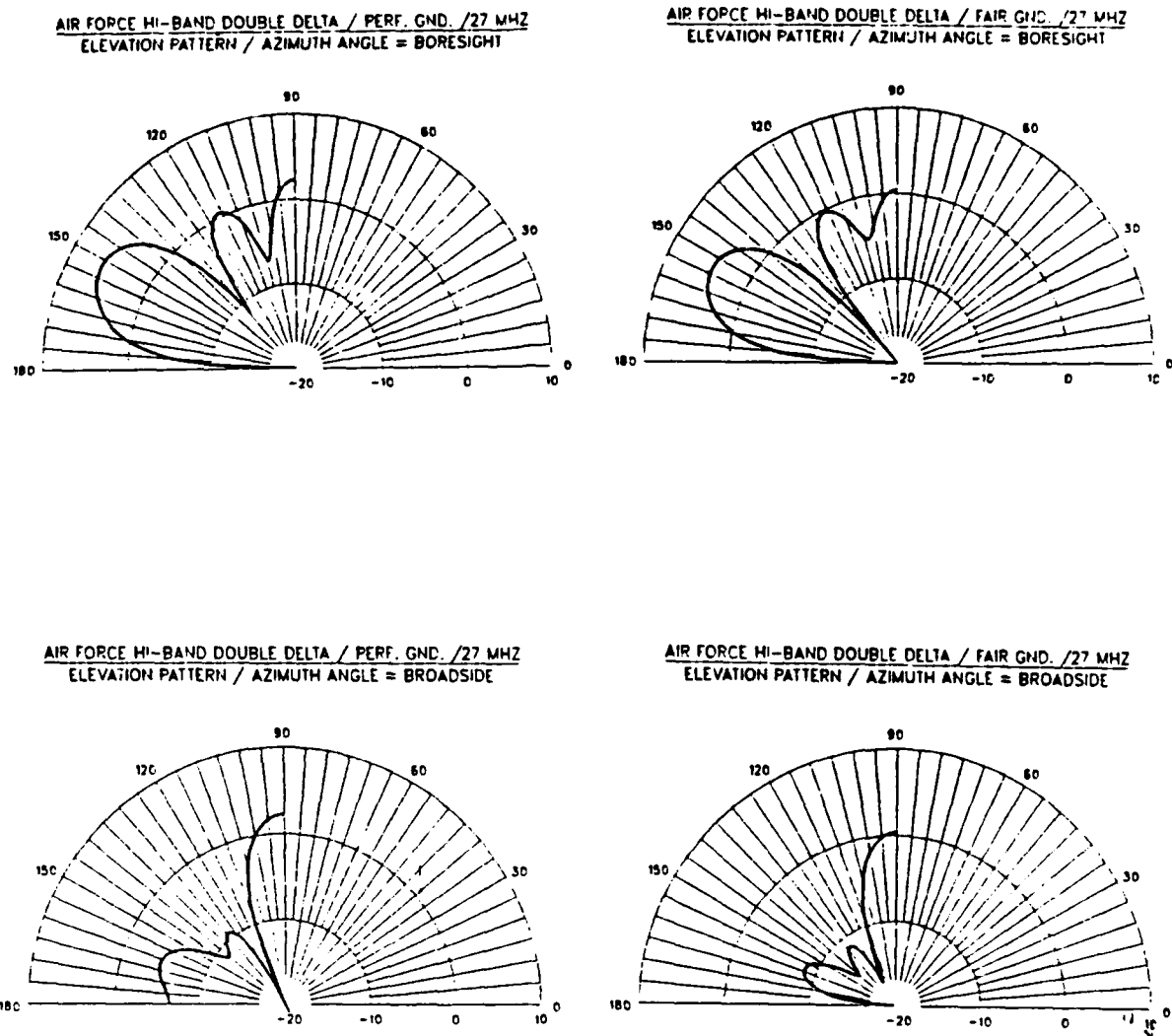
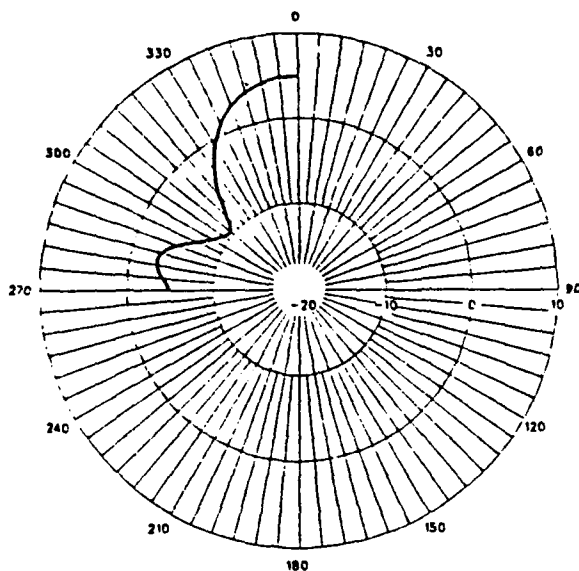
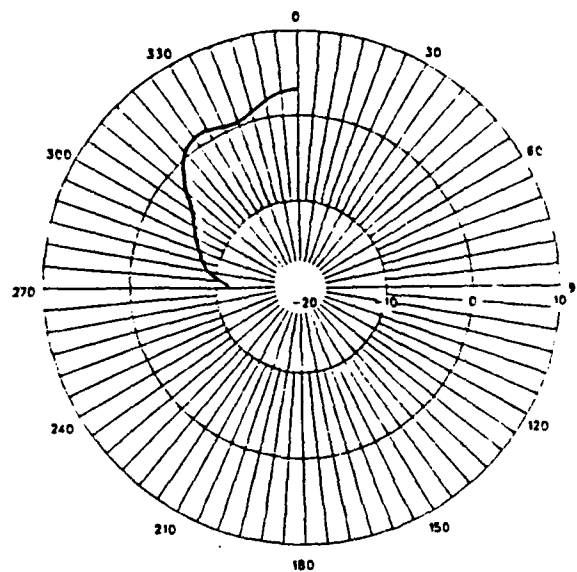


Figure 219. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 27 MHz

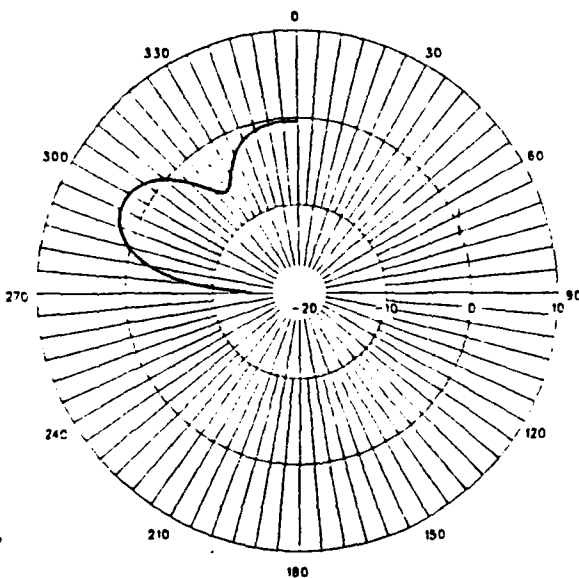
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

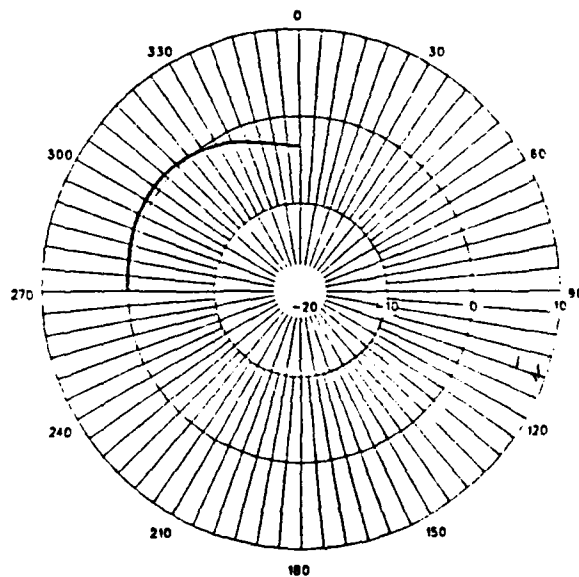
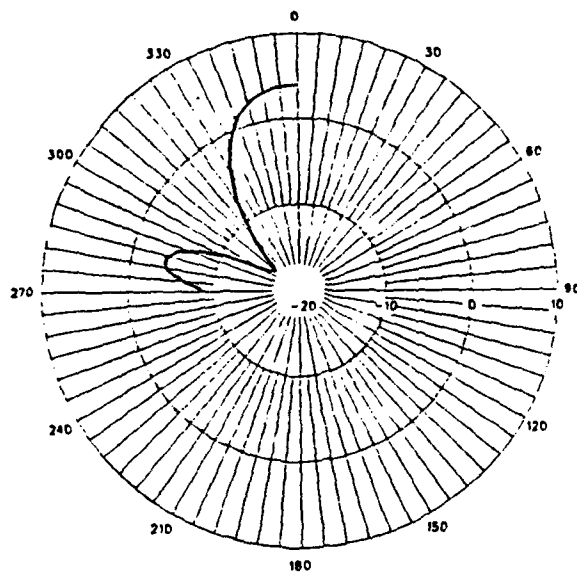
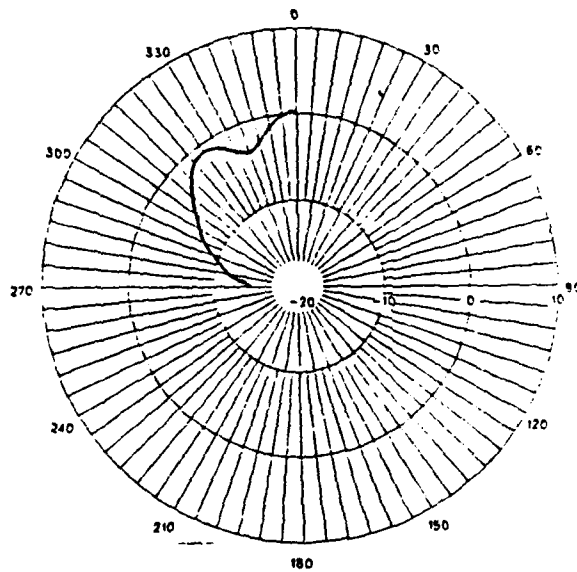


Figure 220. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 27 MHz

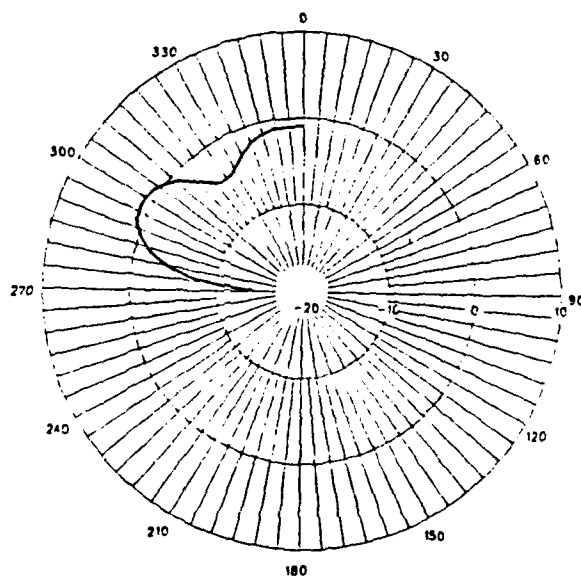
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

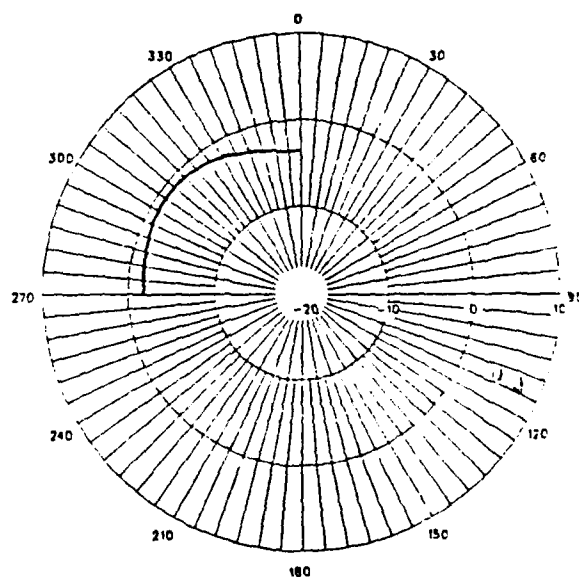


Figure 221. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 27 MHz

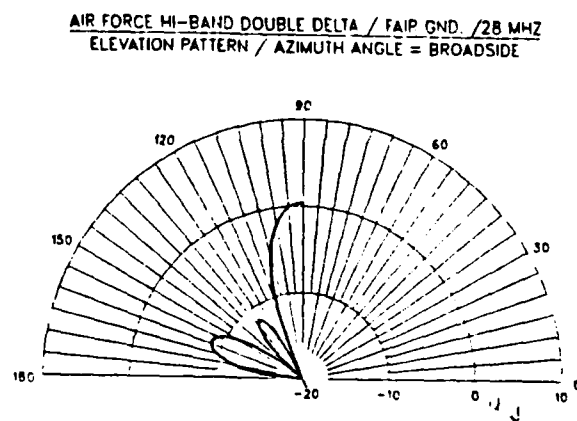
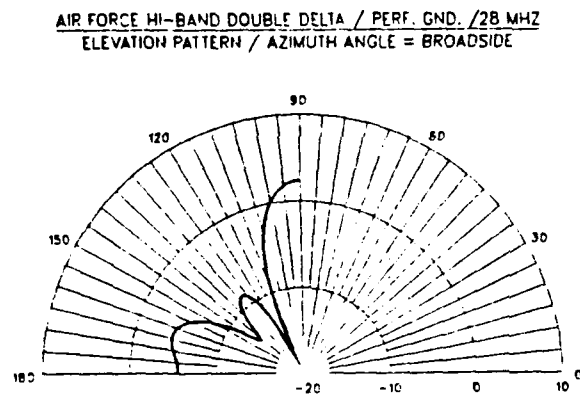
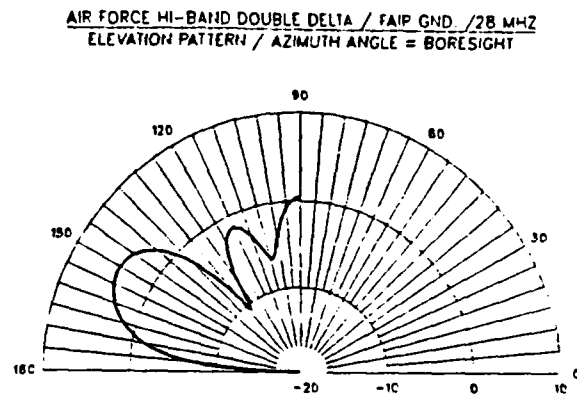
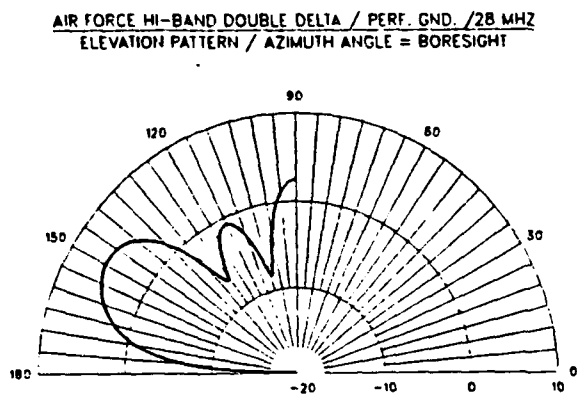
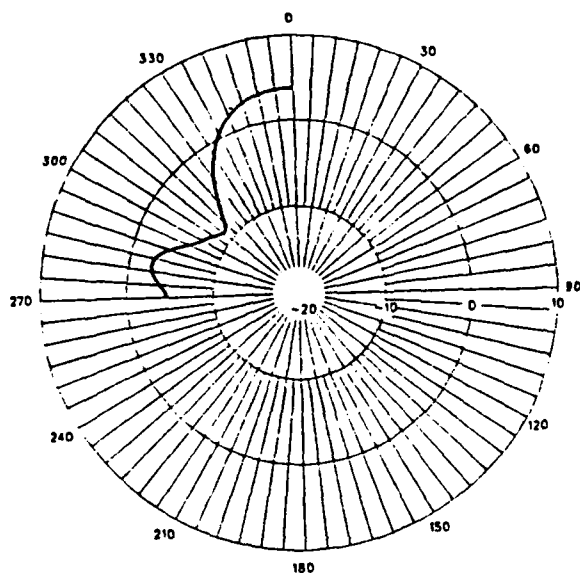
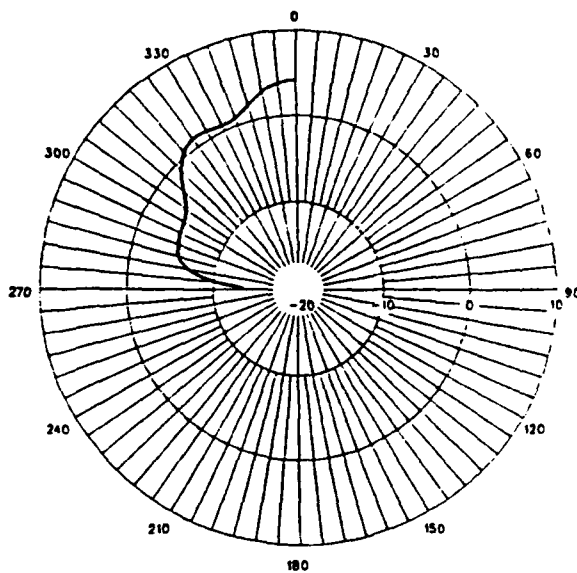


Figure 222. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 28 MHz

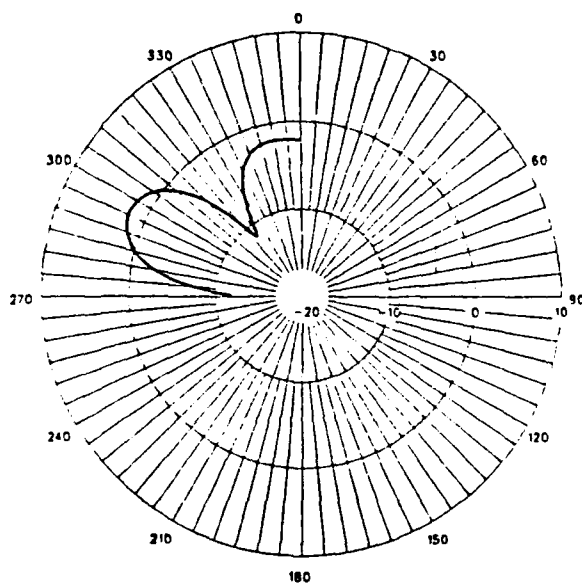
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

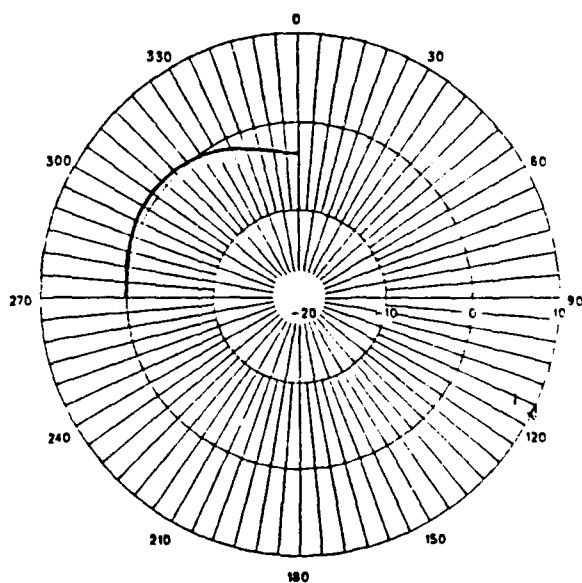
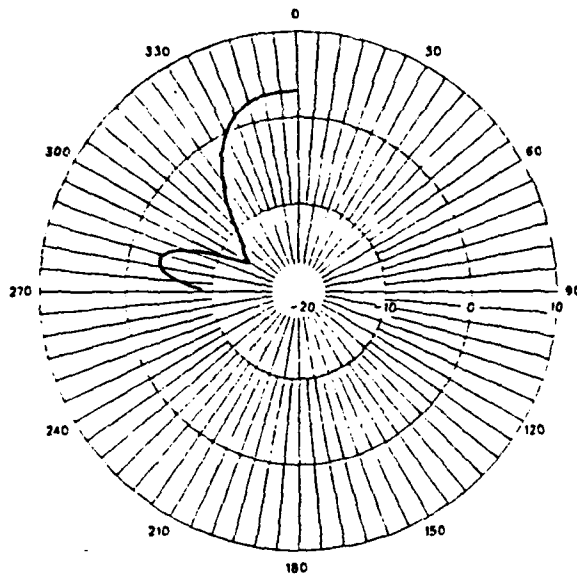
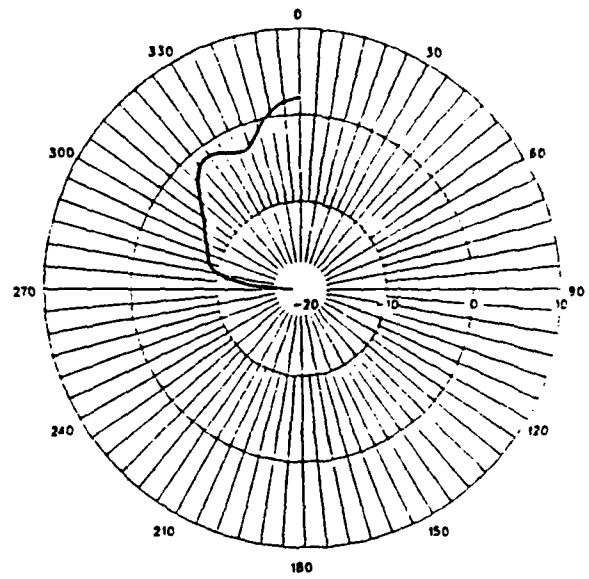


Figure 223. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 28 MHz

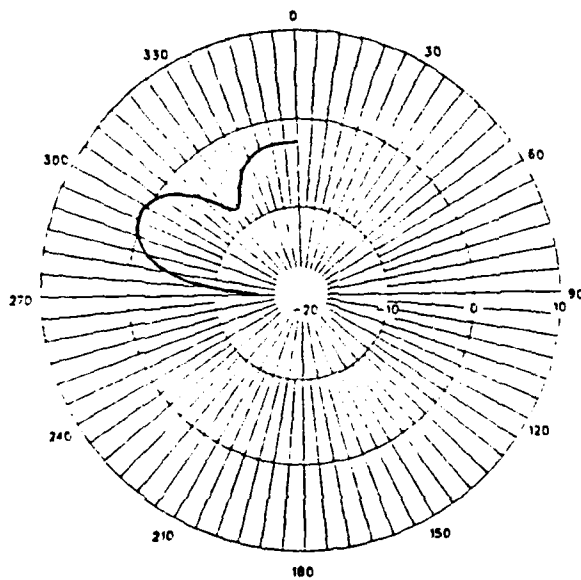
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

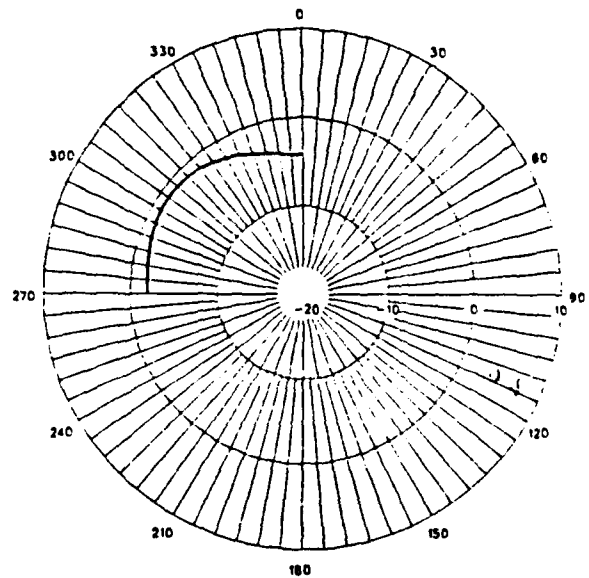
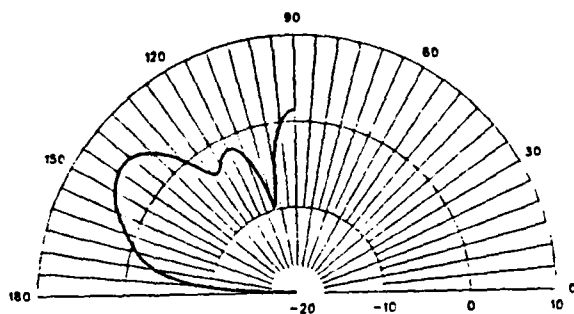
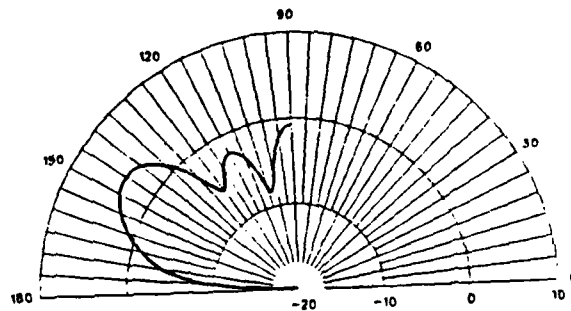


Figure 224. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 28 MHz

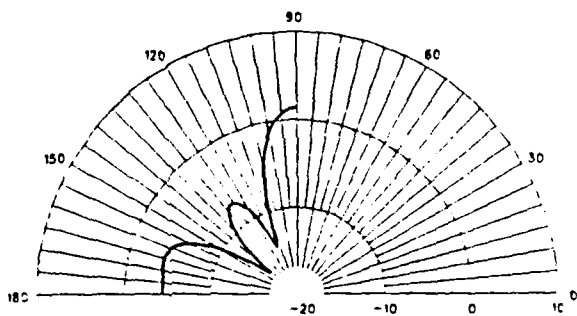
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 29 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 29 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 29 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 29 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

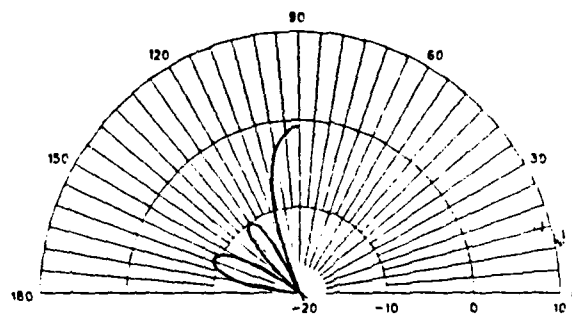


Figure 225. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 29 MHz

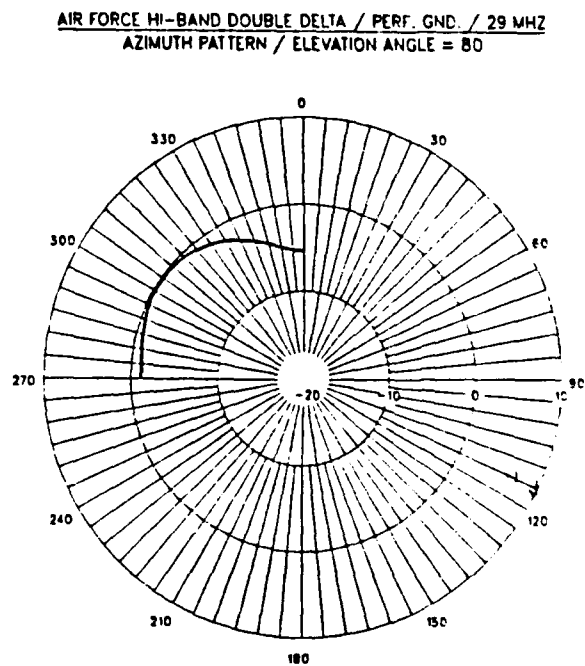
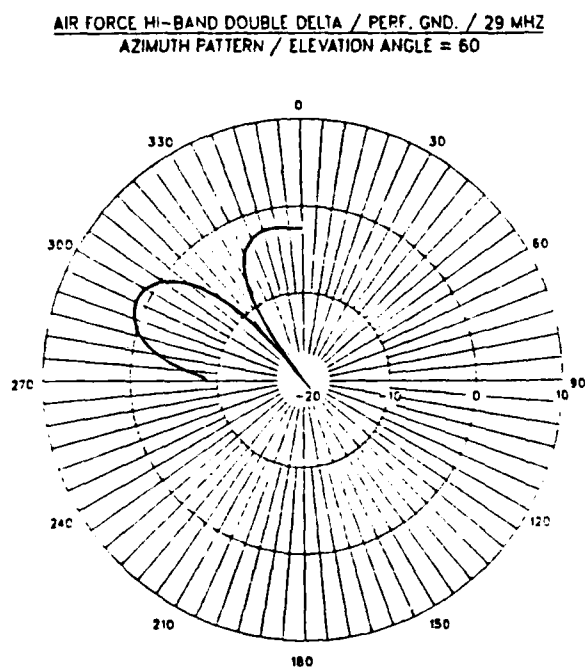
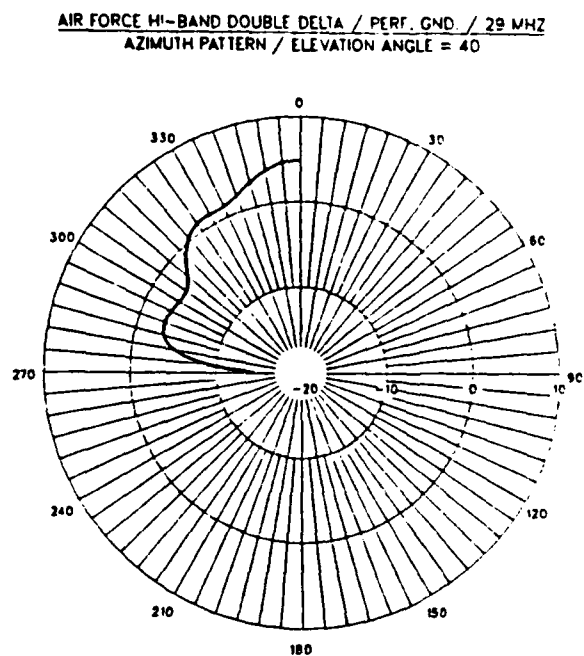
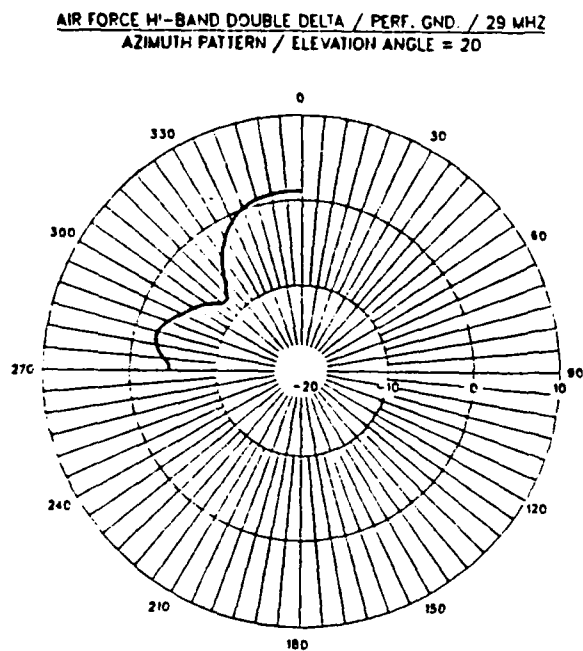
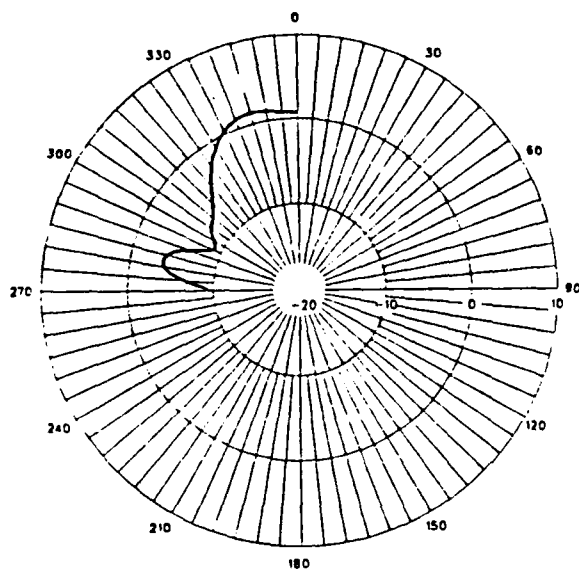
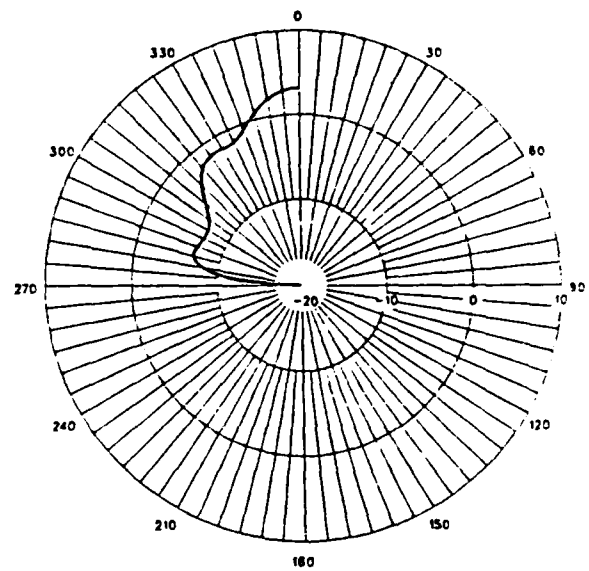


Figure 226. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 29 MHz

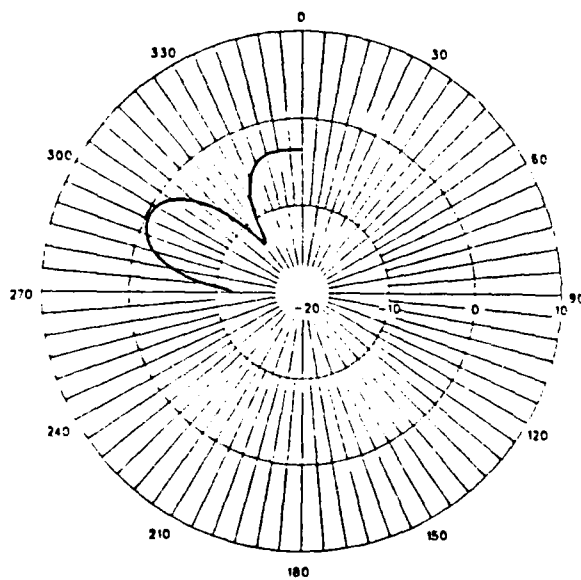
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 29 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 29 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 29 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 29 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

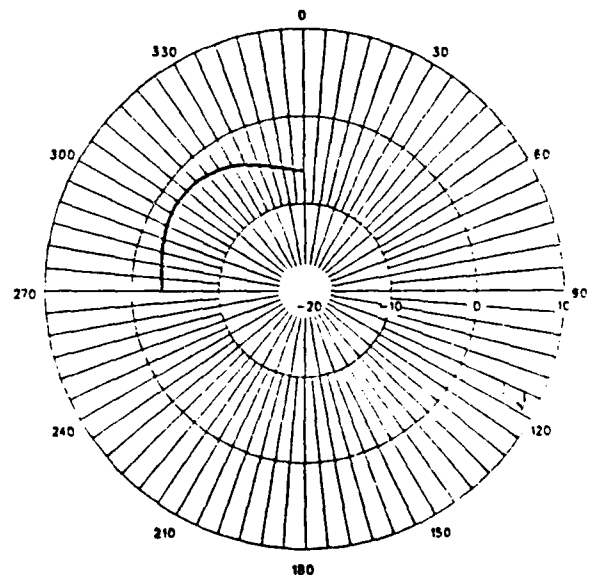
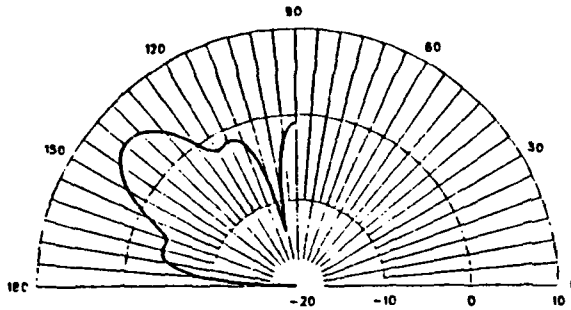
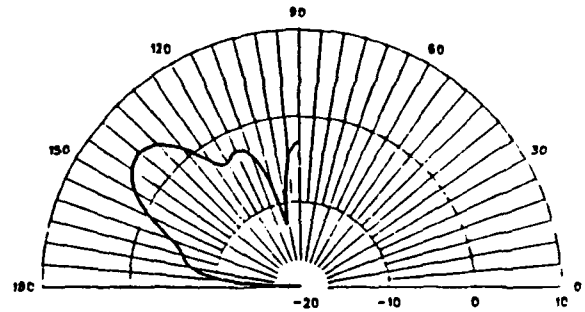


Figure 227. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 29 MHz

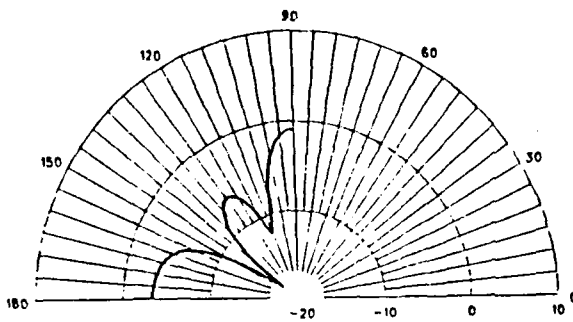
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 30 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 30 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 30 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 30 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

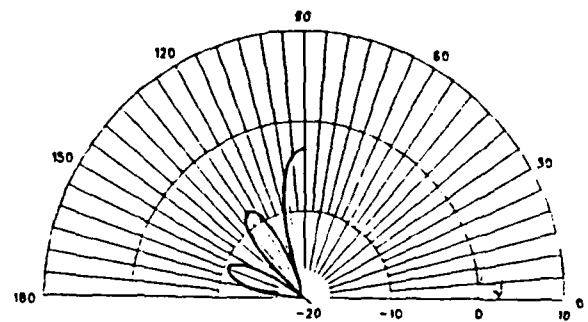
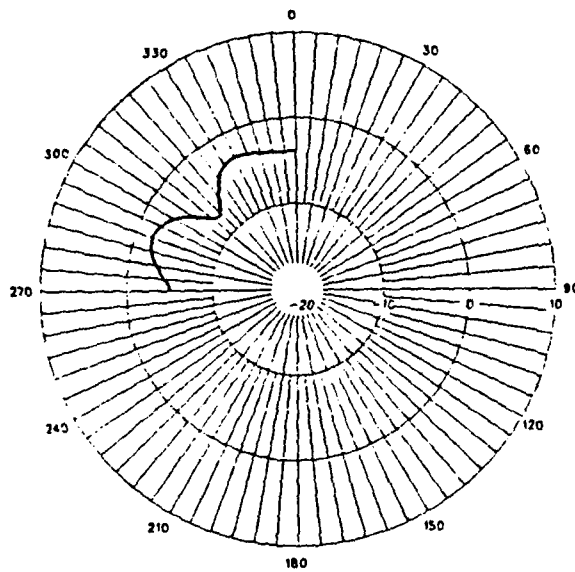
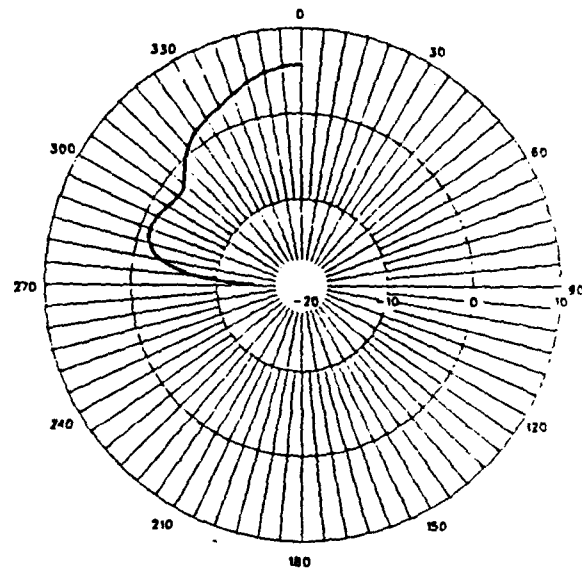


Figure 228. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 30 MHz

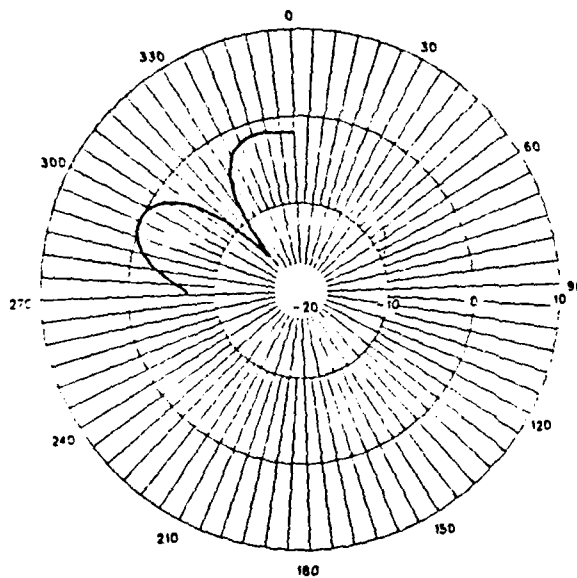
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

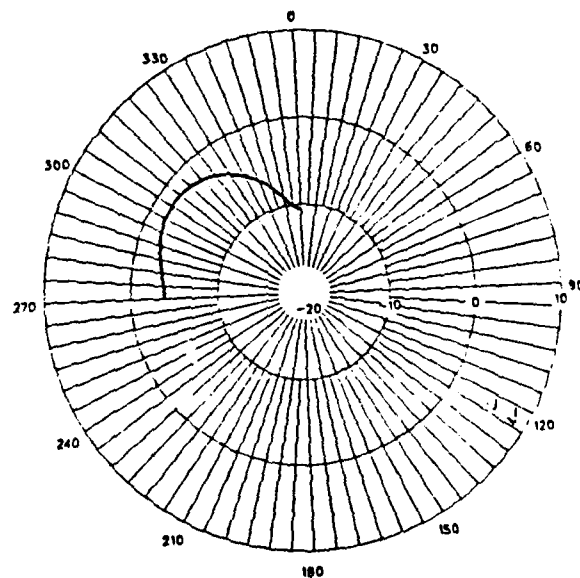
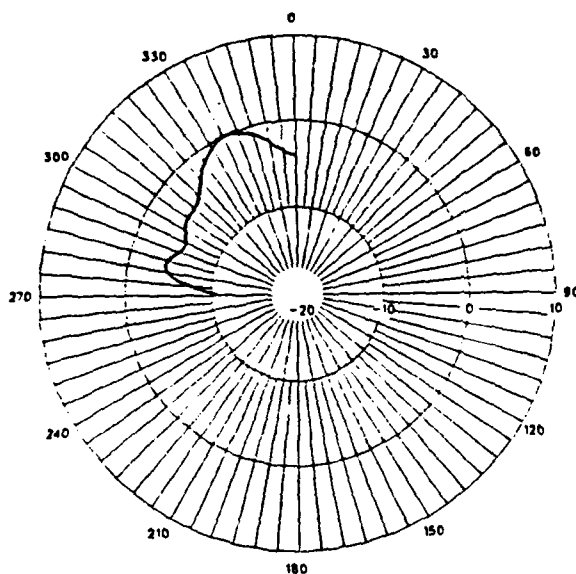
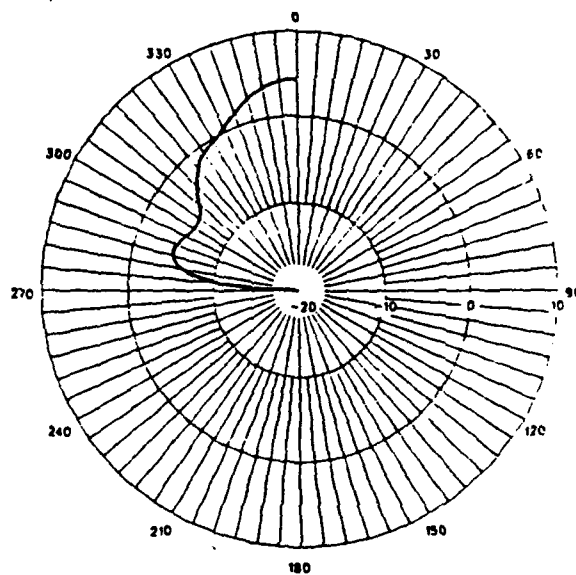


Figure 229. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 30 MHz

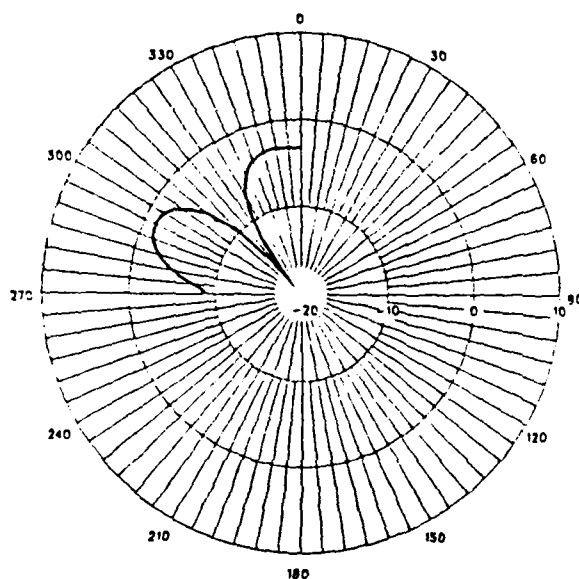
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

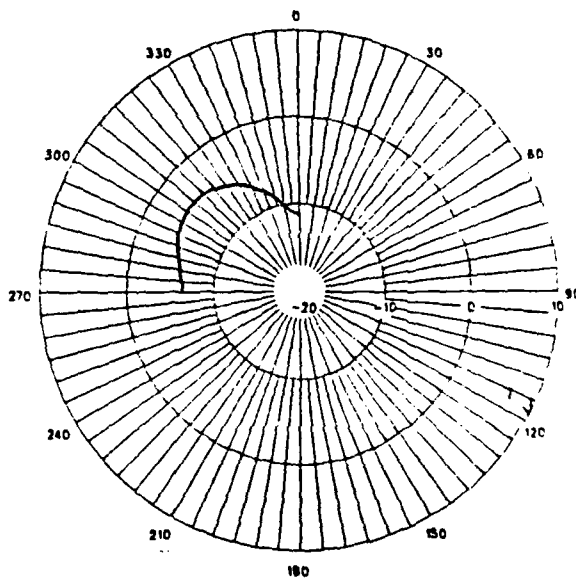
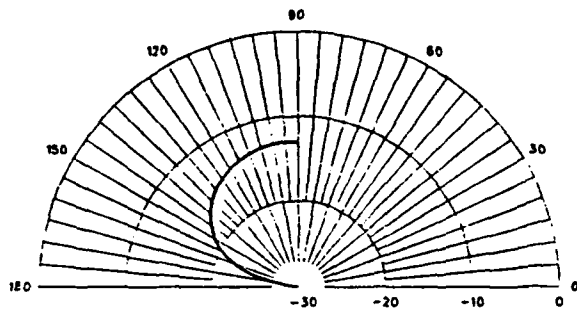
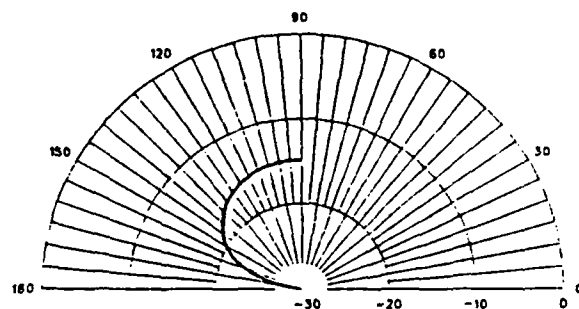


Figure 230. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 30 MHz

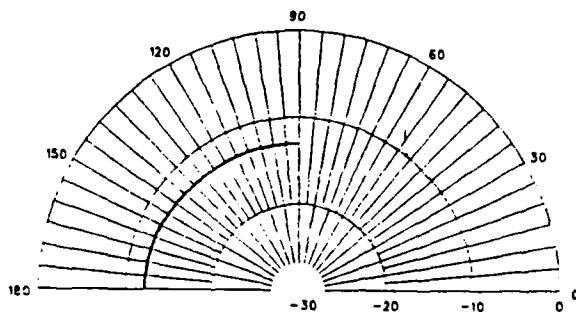
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 2 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 2 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 2 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 2 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

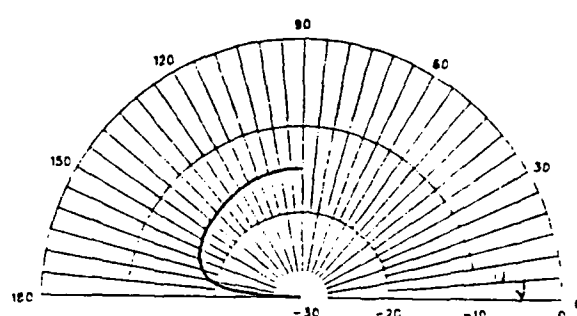
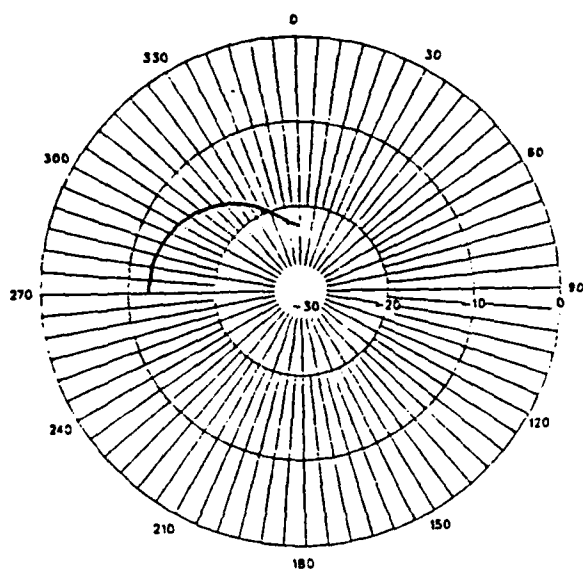
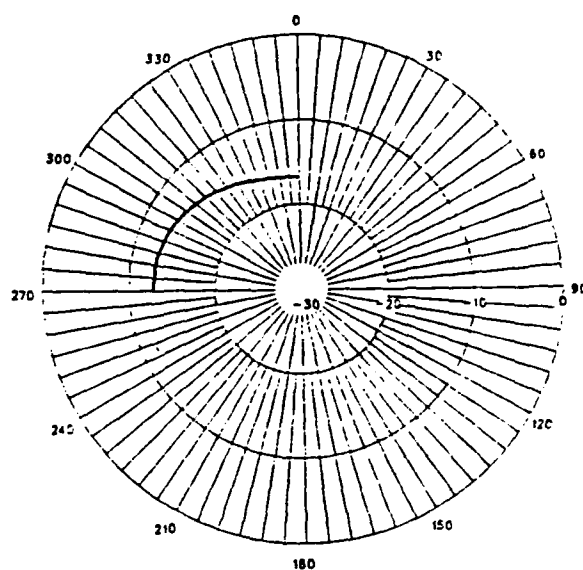


Figure 231. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 2 MHz

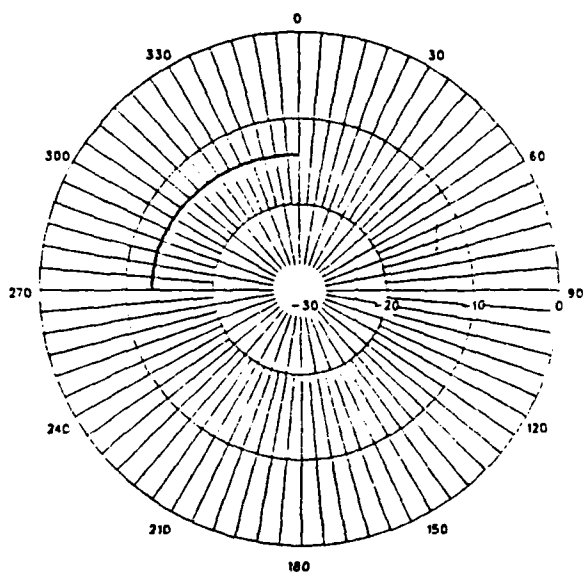
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

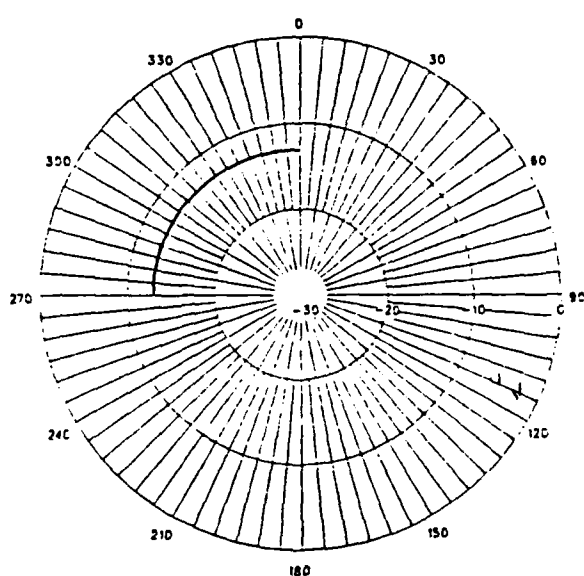
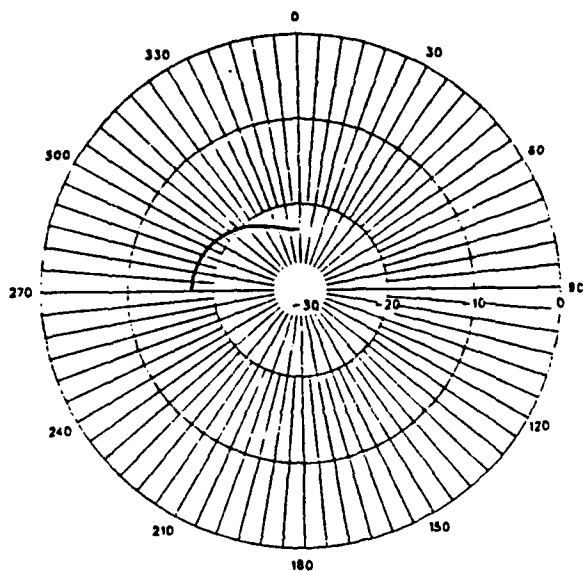
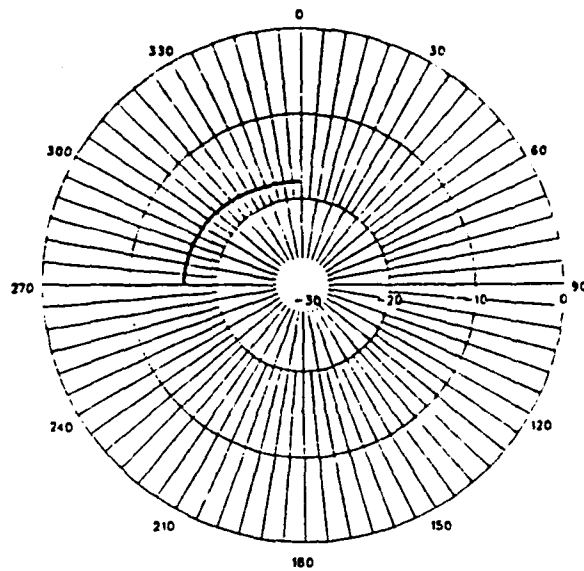


Figure 232. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 2 MHz

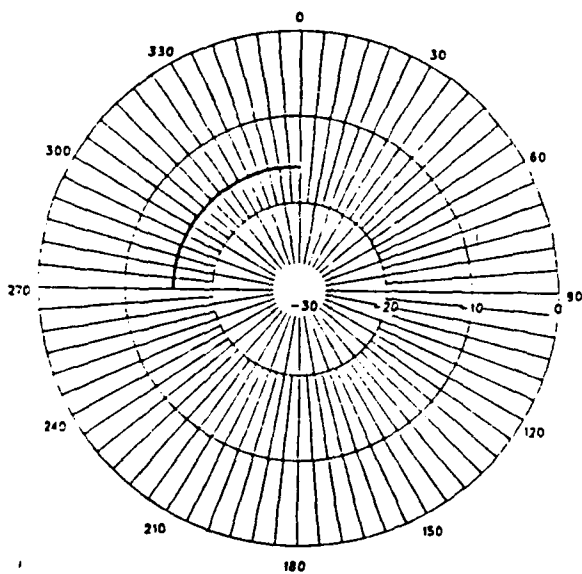
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

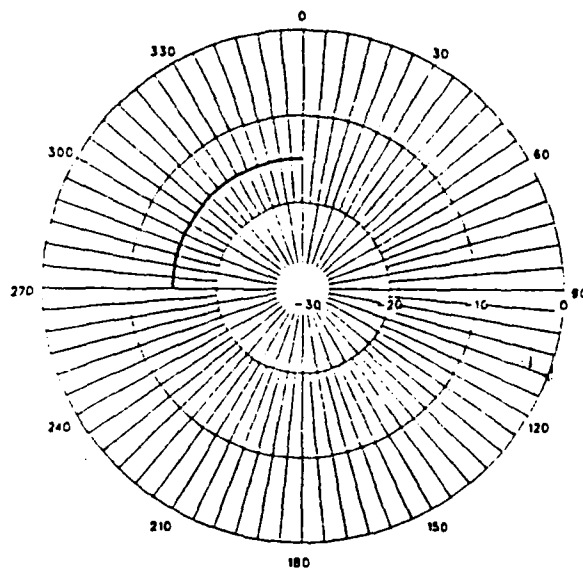


Figure 233. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 2 MHz

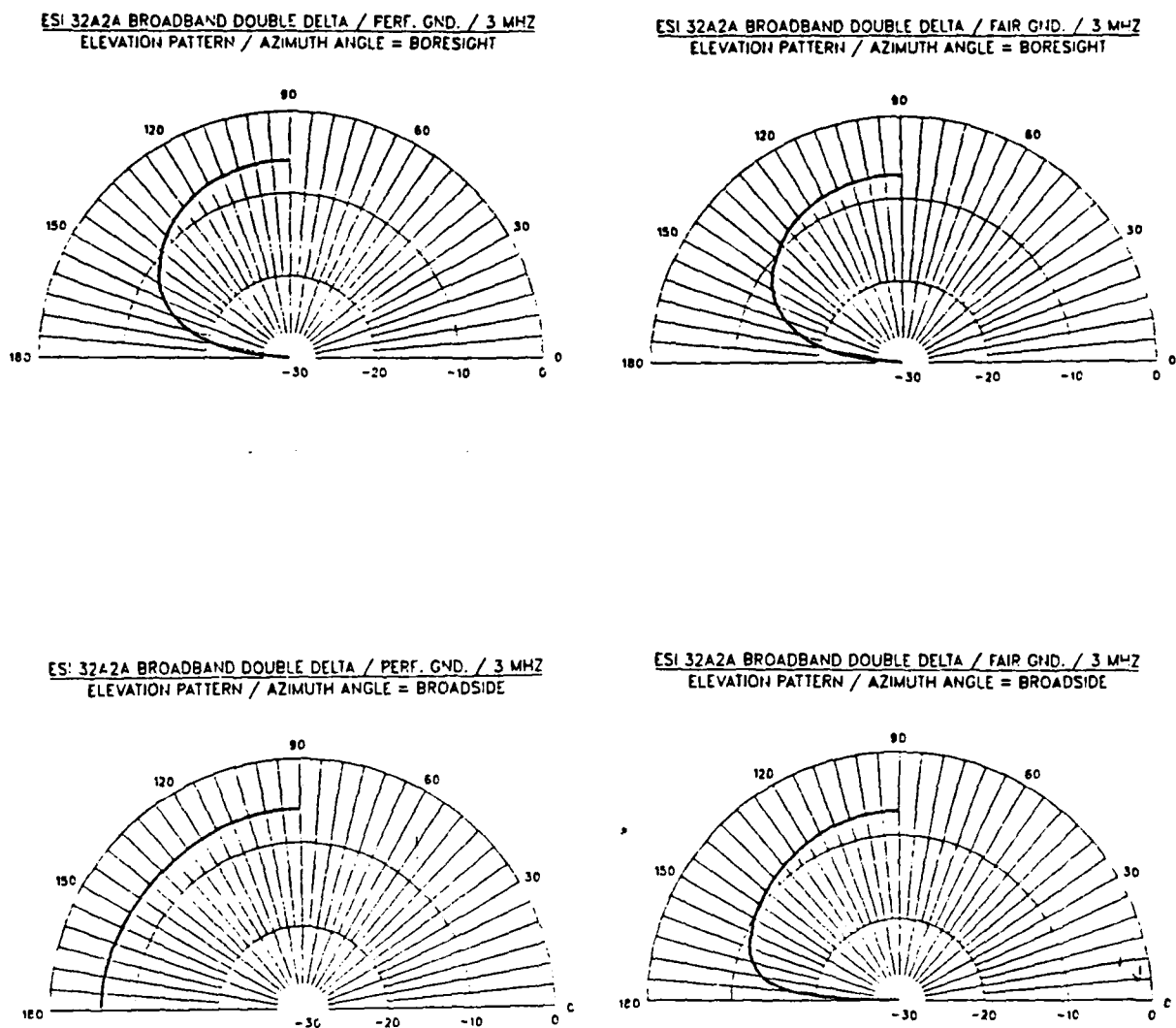
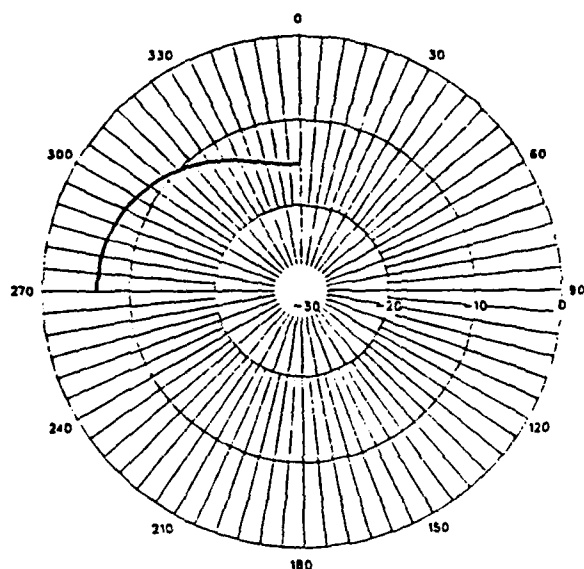
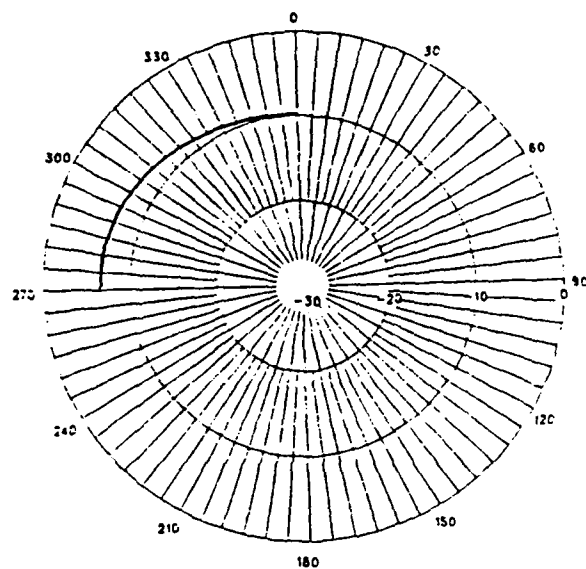


Figure 234. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 3 MHz

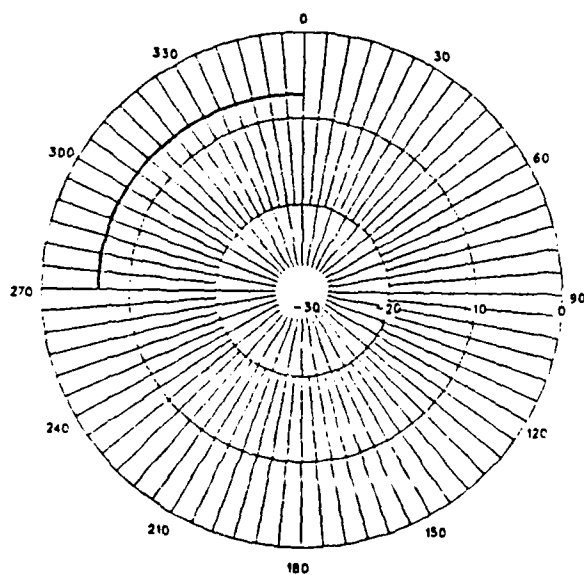
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

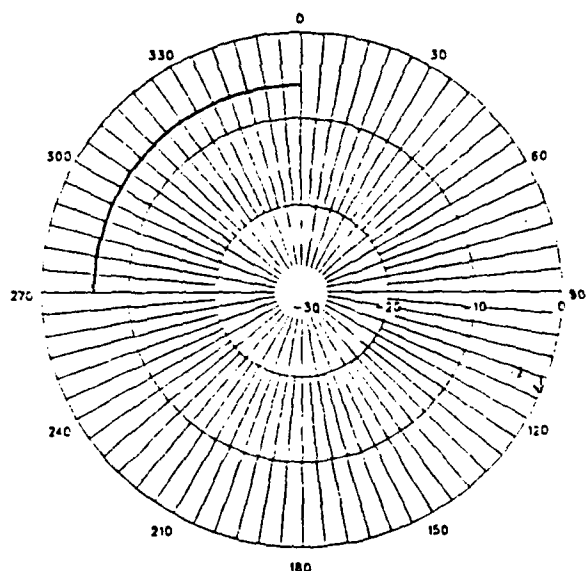
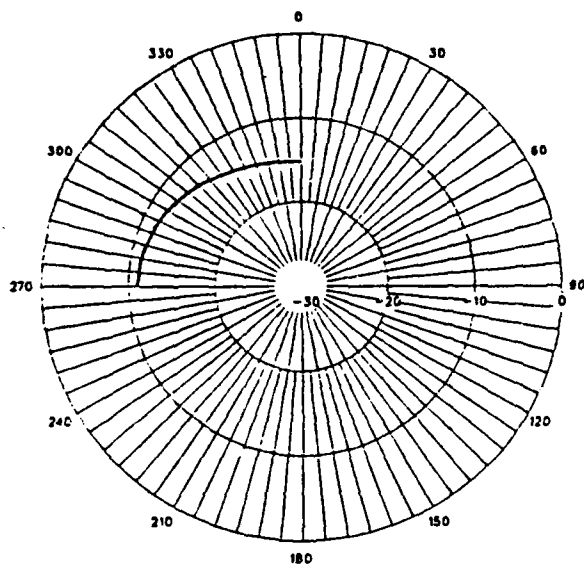
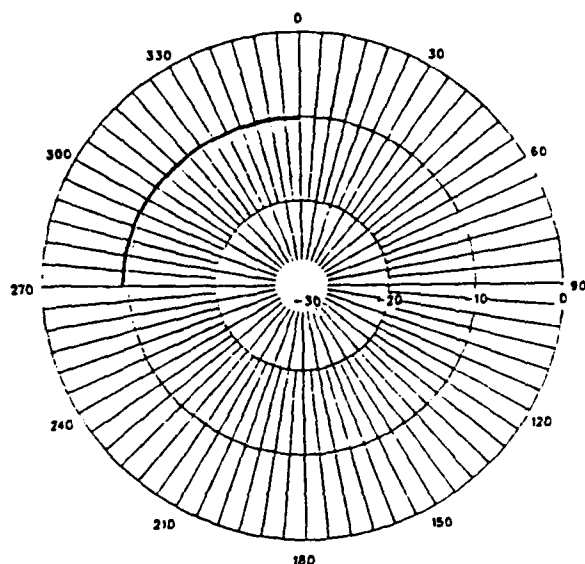


Figure 235. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 3 MHz

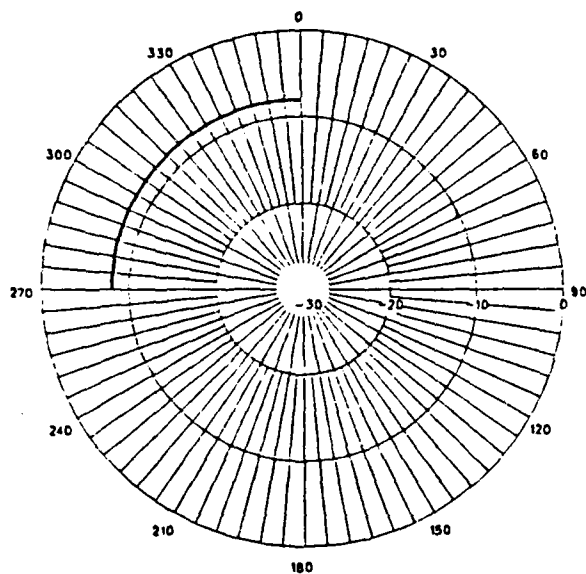
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

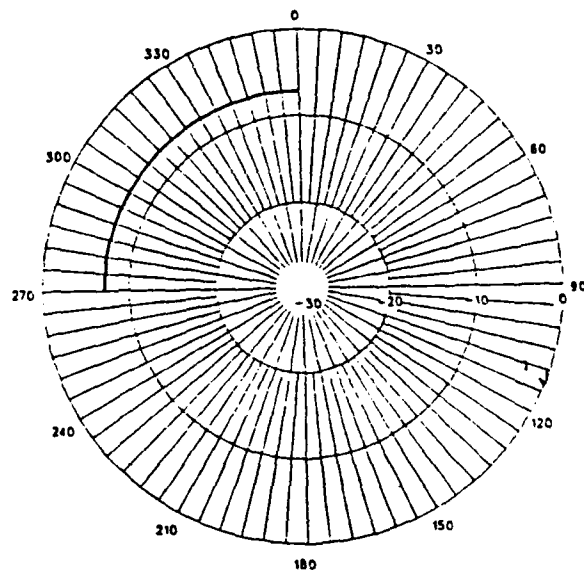
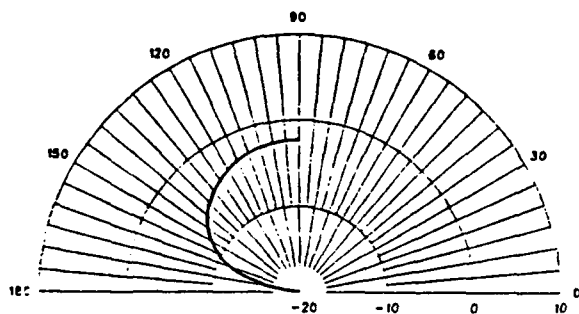
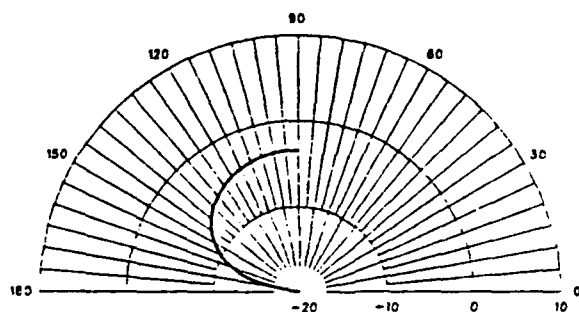


Figure 236. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 3 MHz

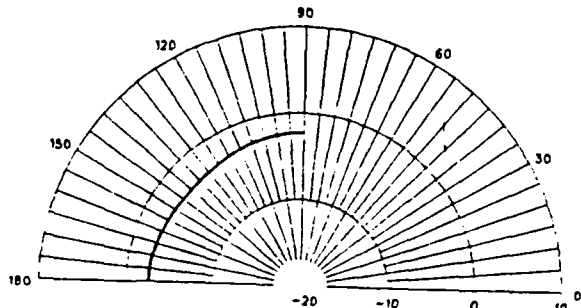
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 4 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 4 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 4 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 4 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

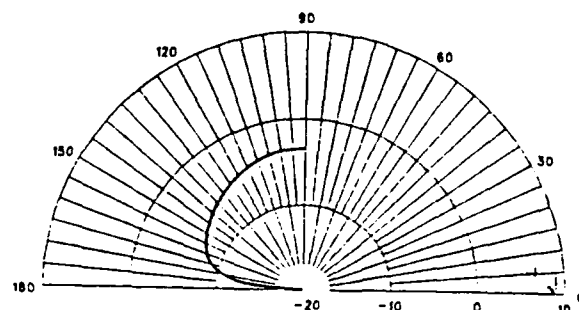
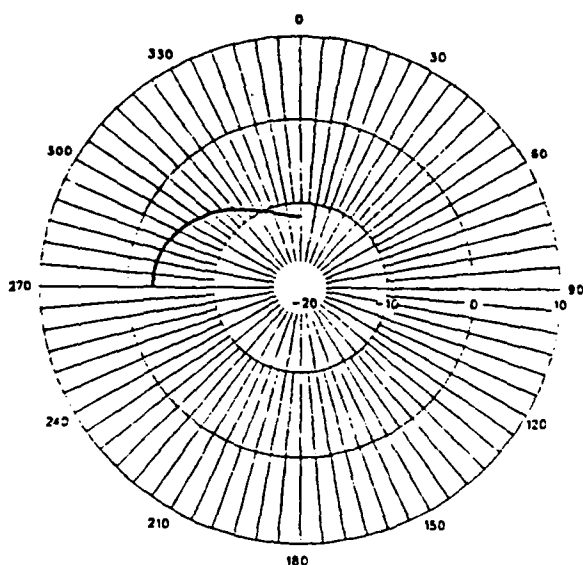
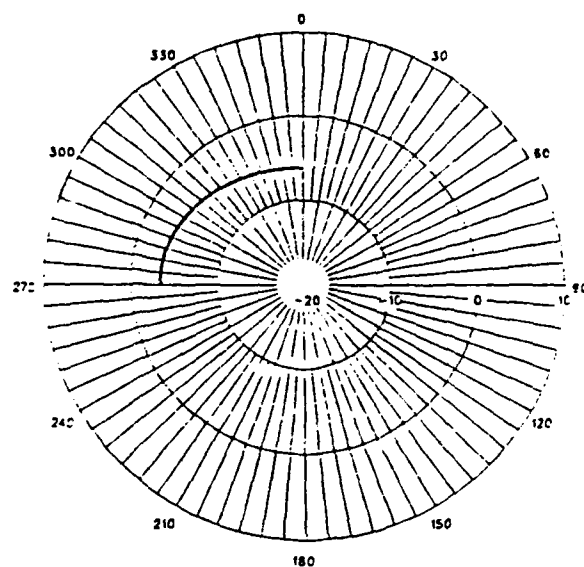


Figure 237. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 4 MHz

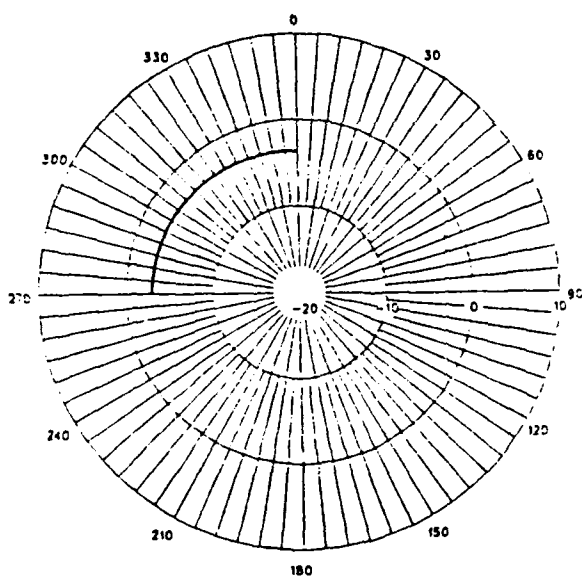
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

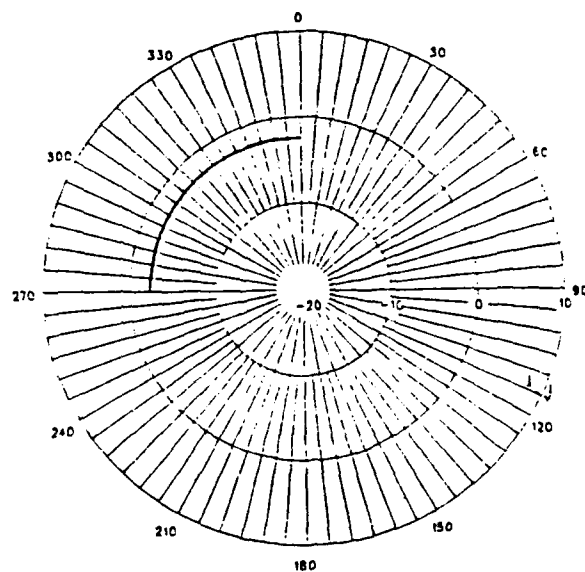
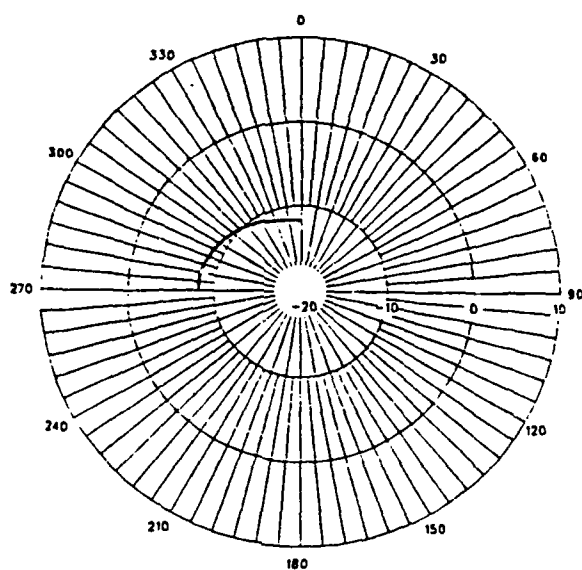
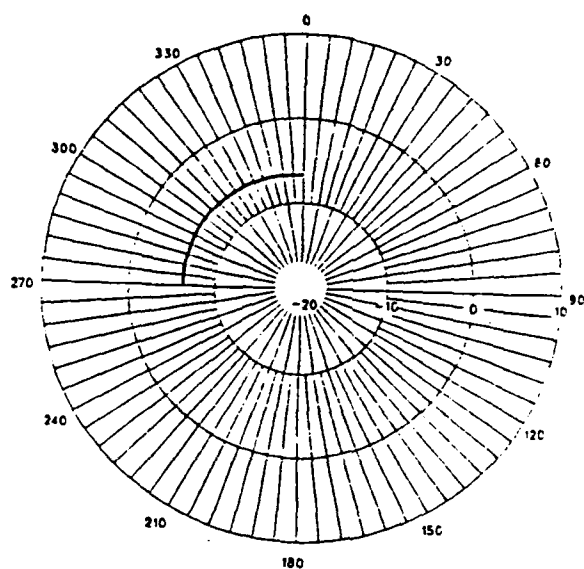


Figure 238. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 4 MHz

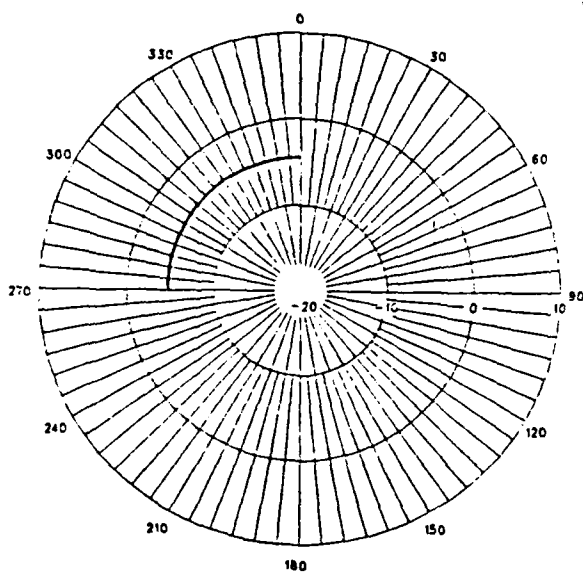
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

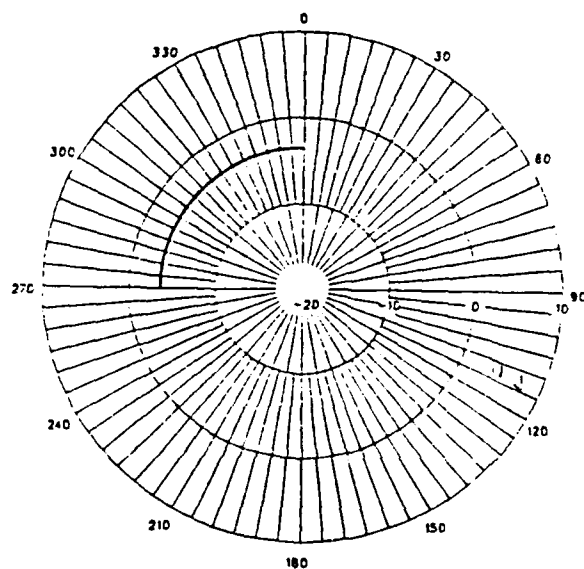
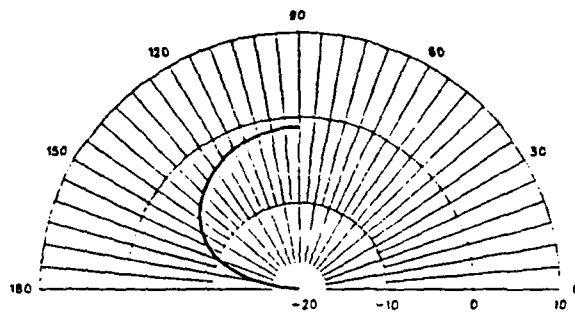
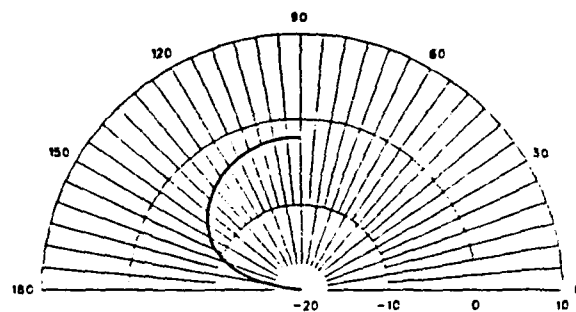


Figure 239. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 4 MHz

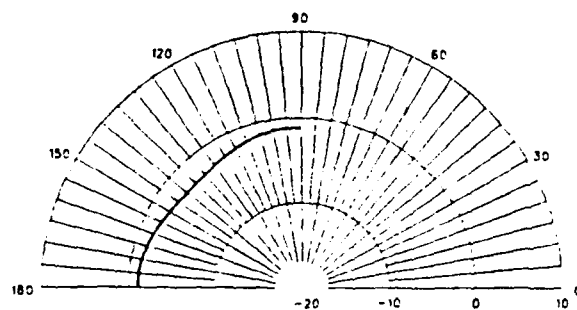
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 5 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 5 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 5 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 5 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

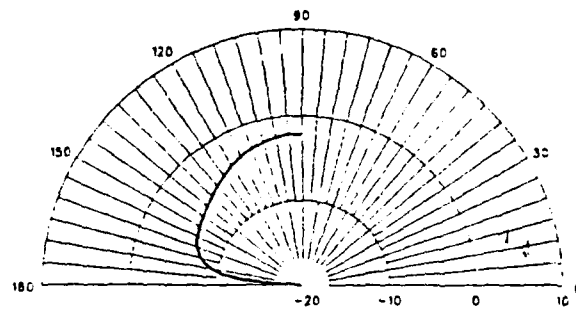
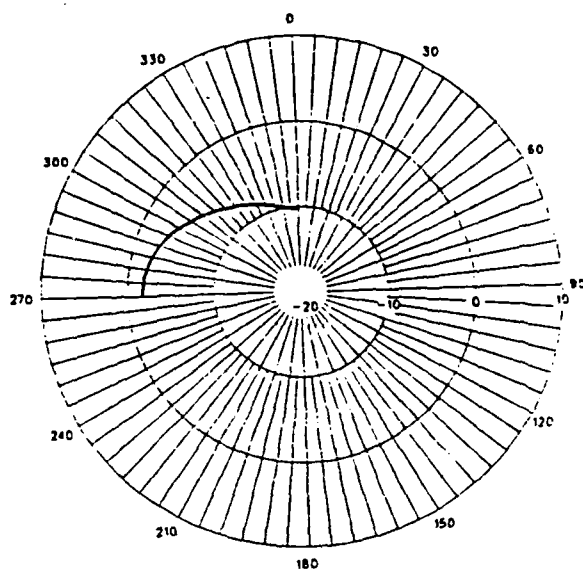
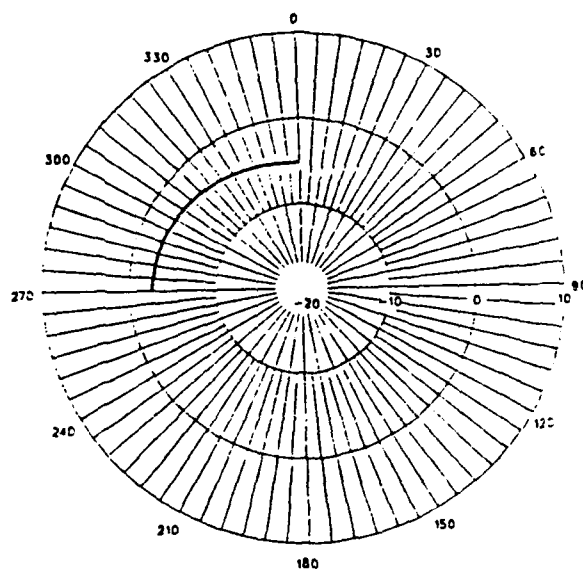


Figure 240. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 5 MHz

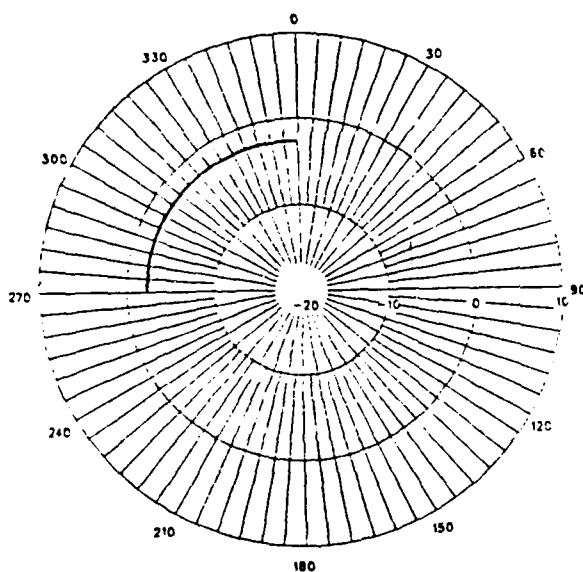
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

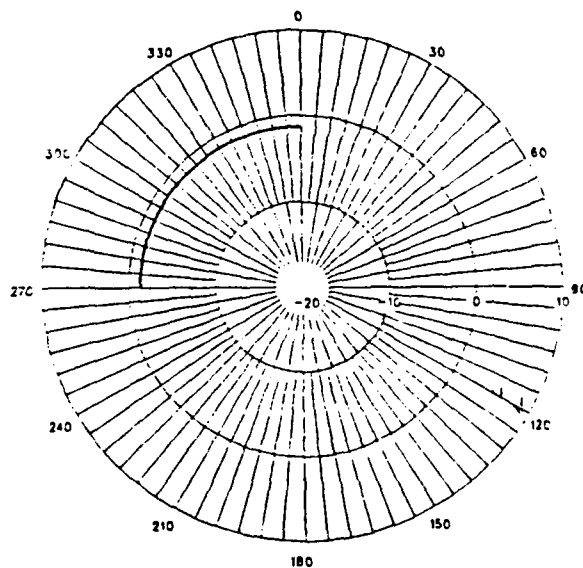
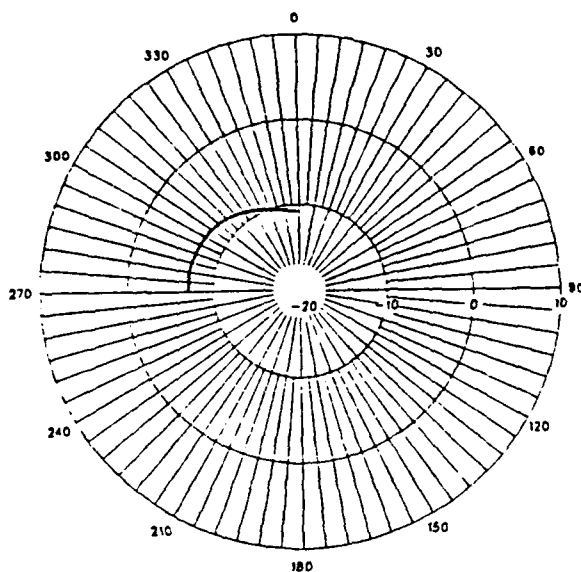
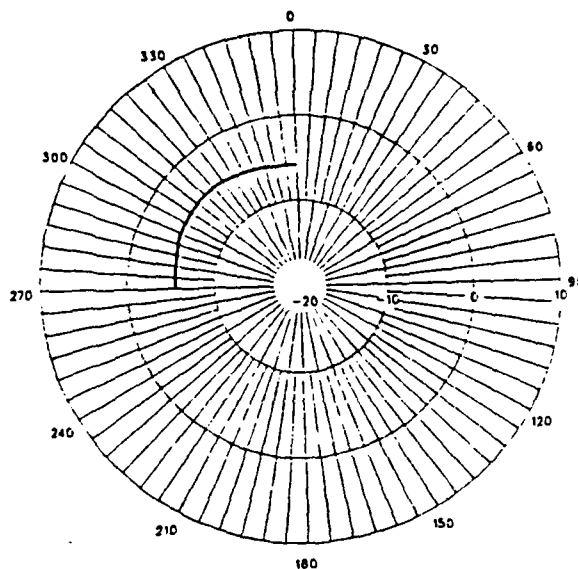


Figure 241. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 5 MHz

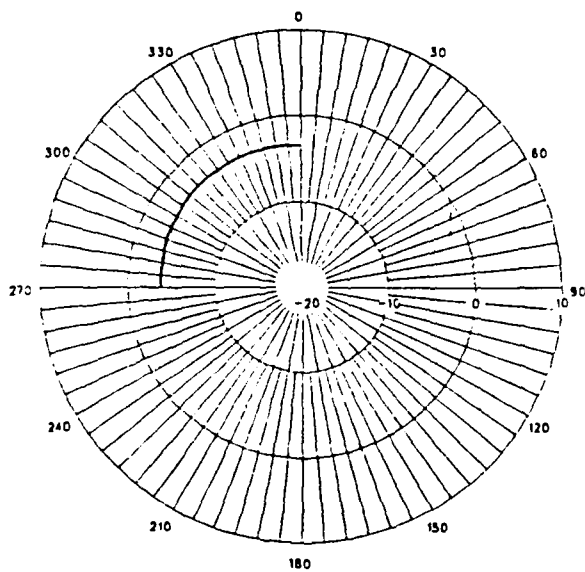
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

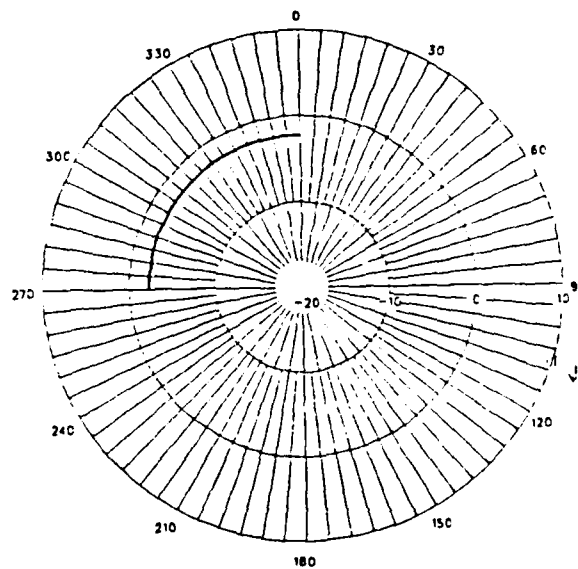
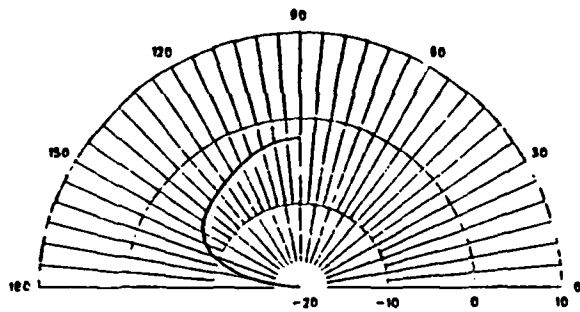
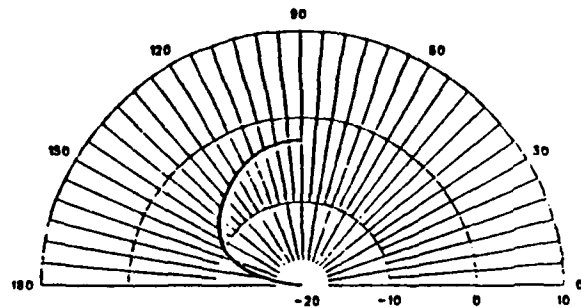


Figure 242. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 5 MHz

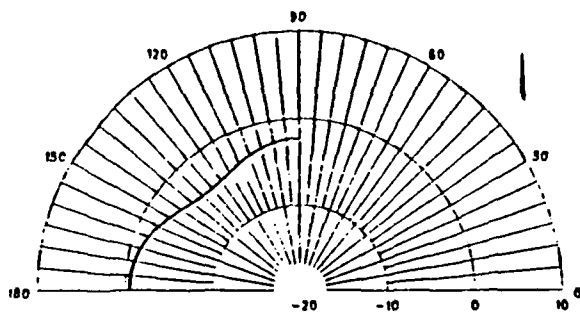
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 6 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 6 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 6 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 6 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

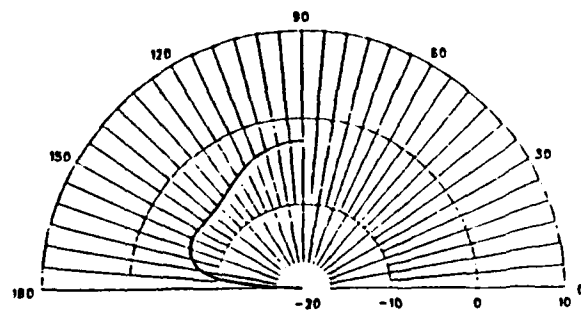
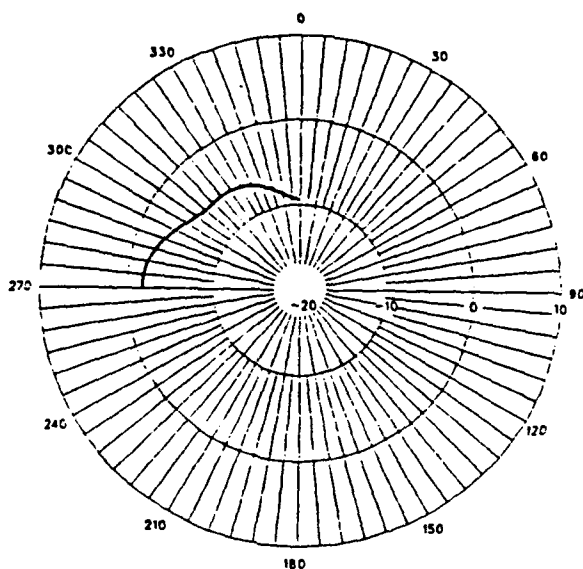
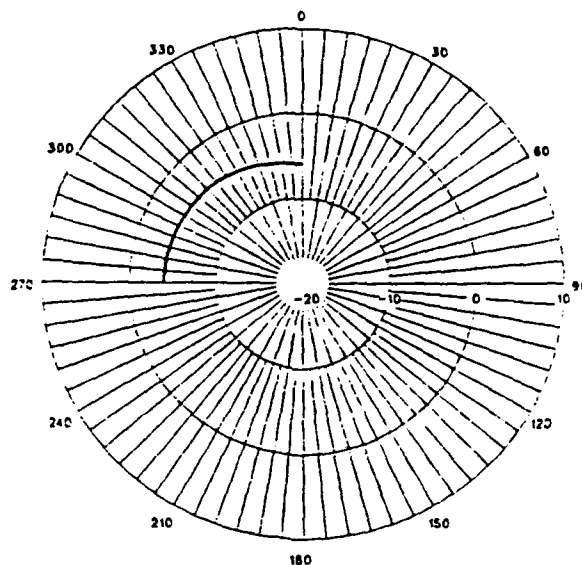


Figure 243. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 6 MHz

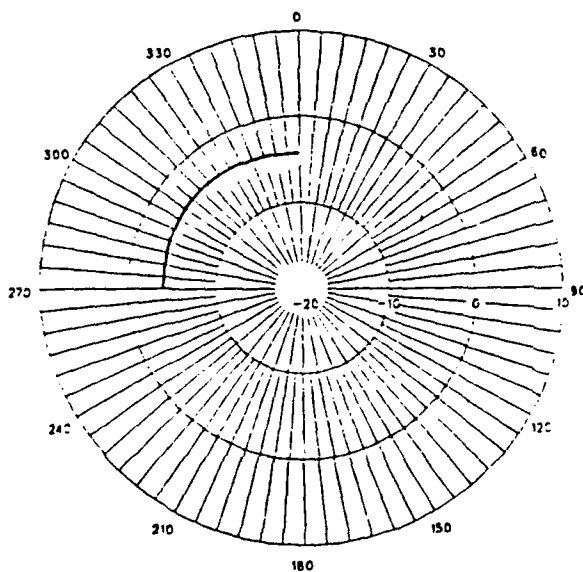
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

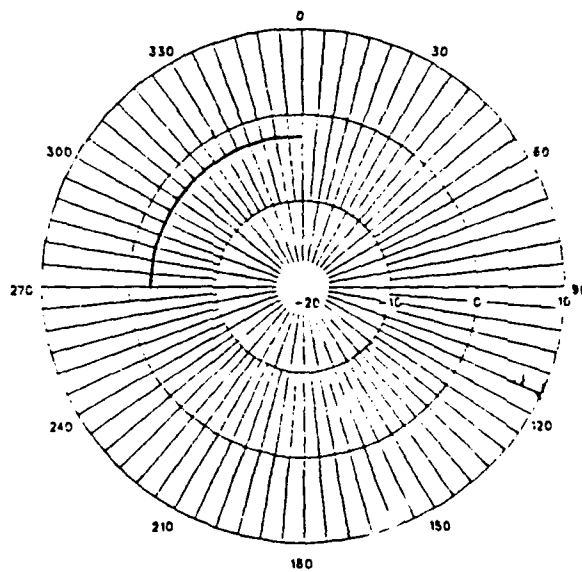
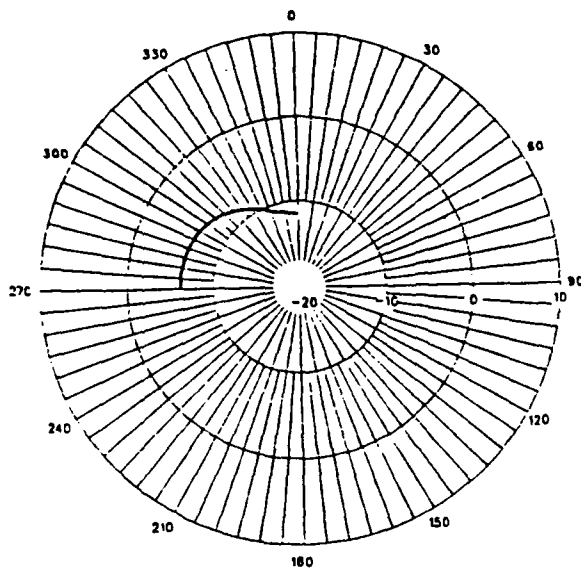
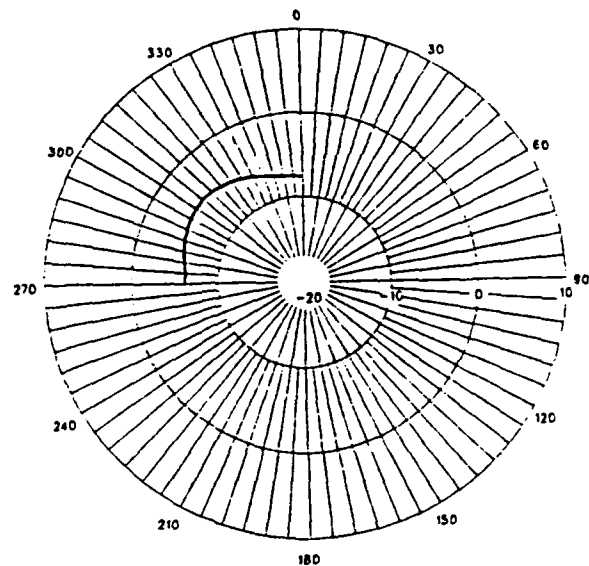


Figure 244. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 6 MHz

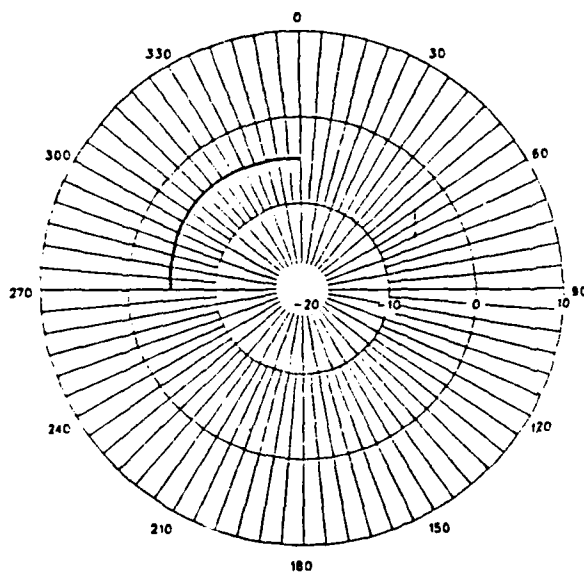
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

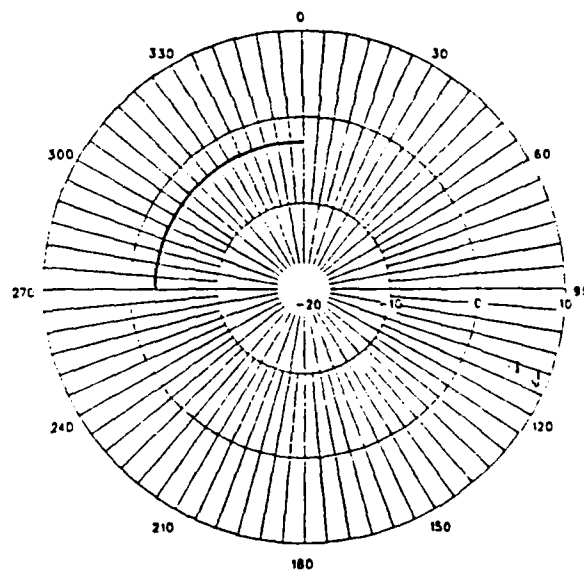


Figure 245. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 6 MHz

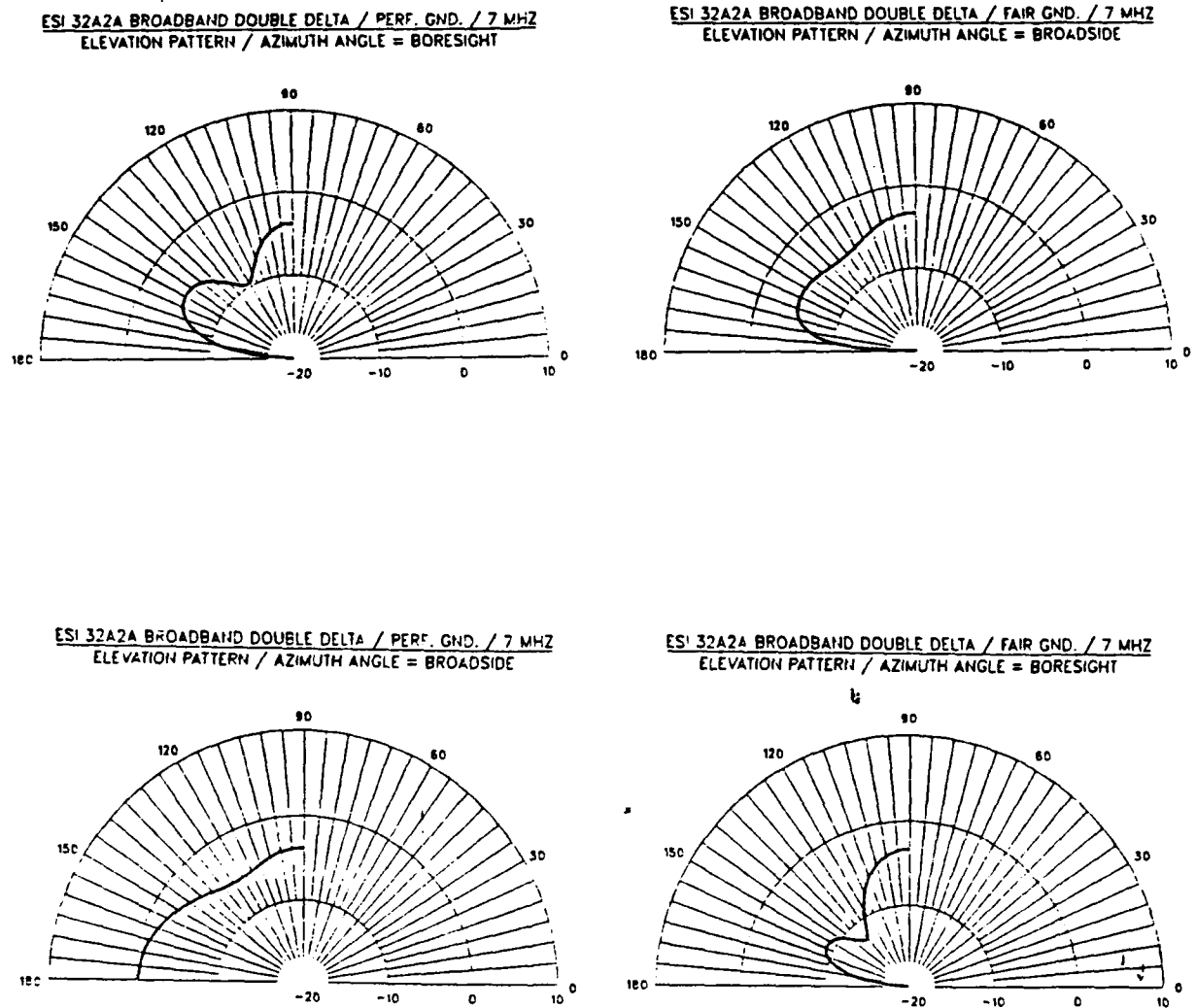
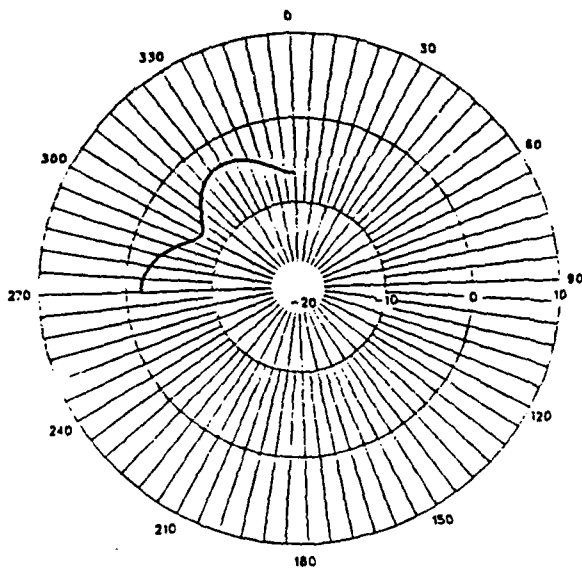
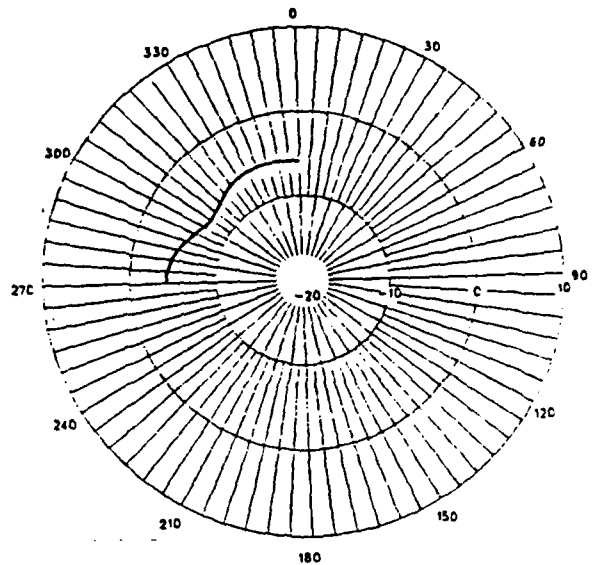


Figure 246. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 7 MHz

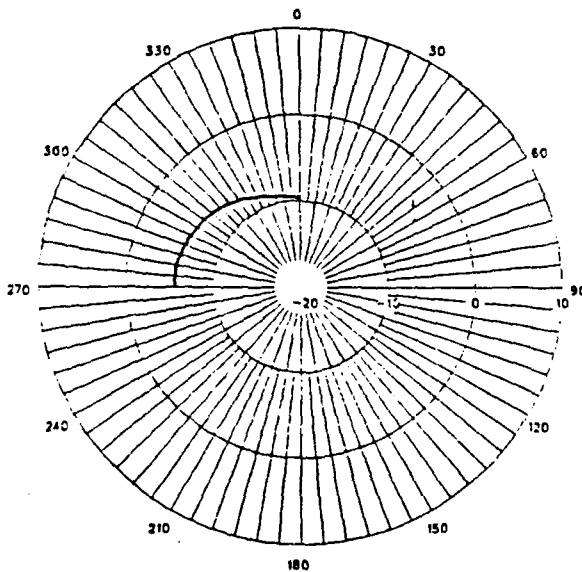
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

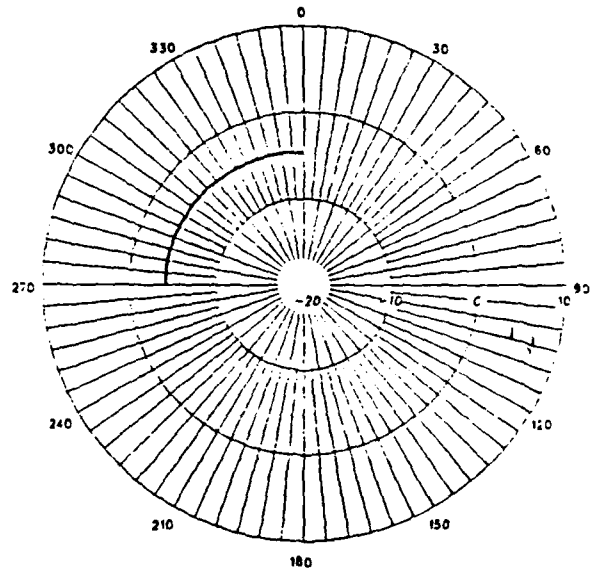
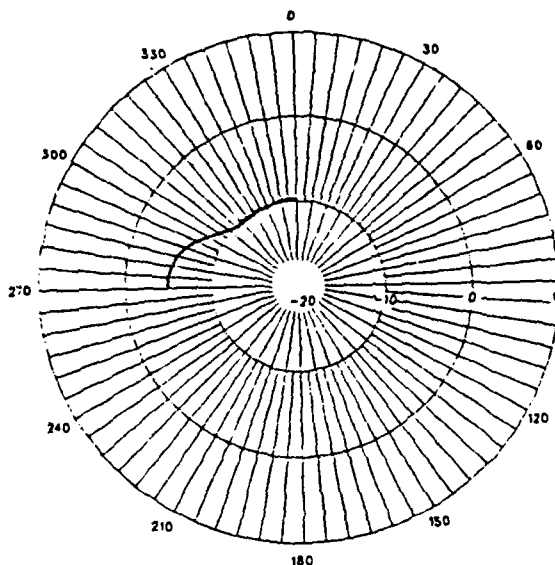
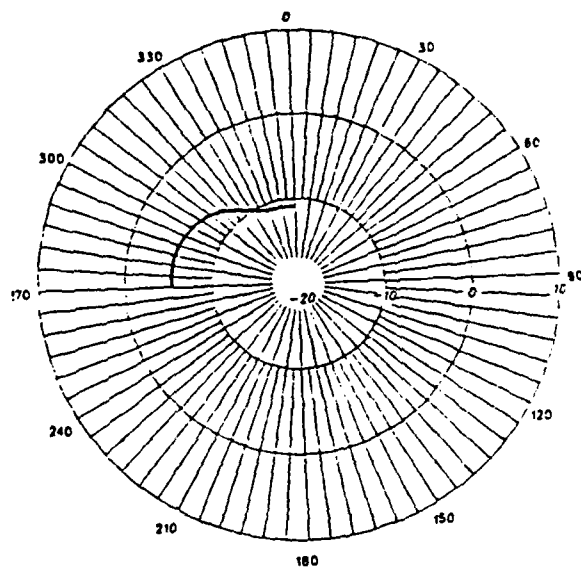


Figure 247. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 7 MHz

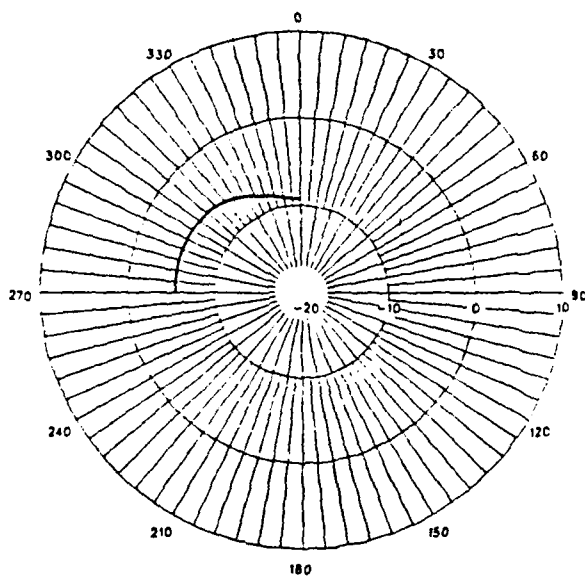
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

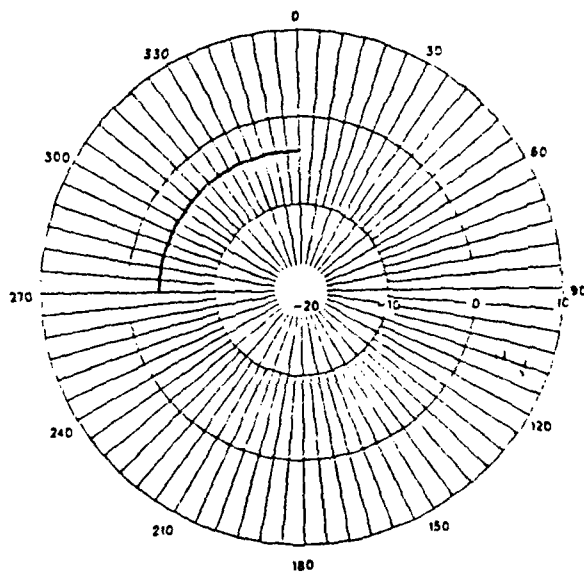
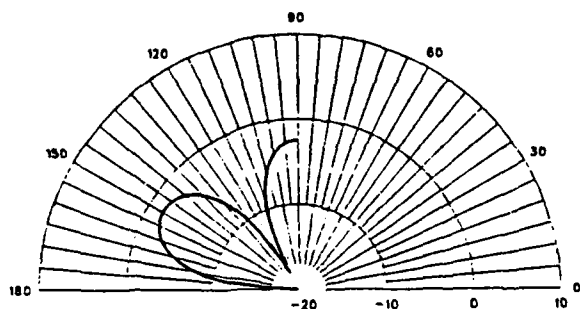
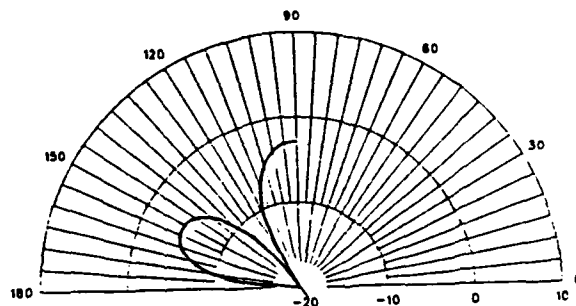


Figure 248. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 7 MHz

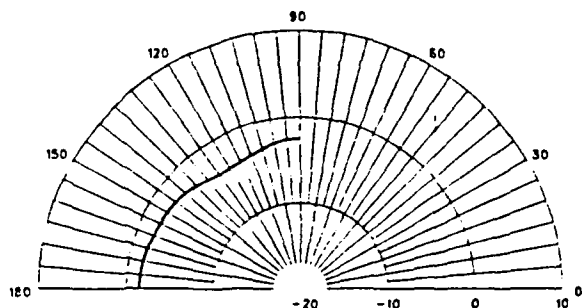
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

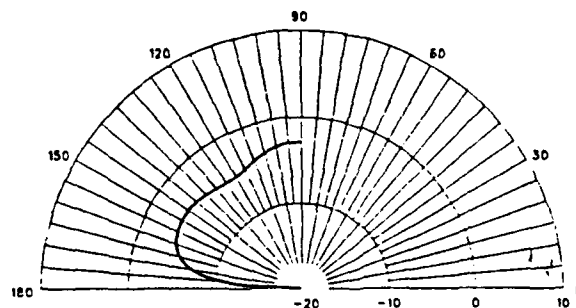
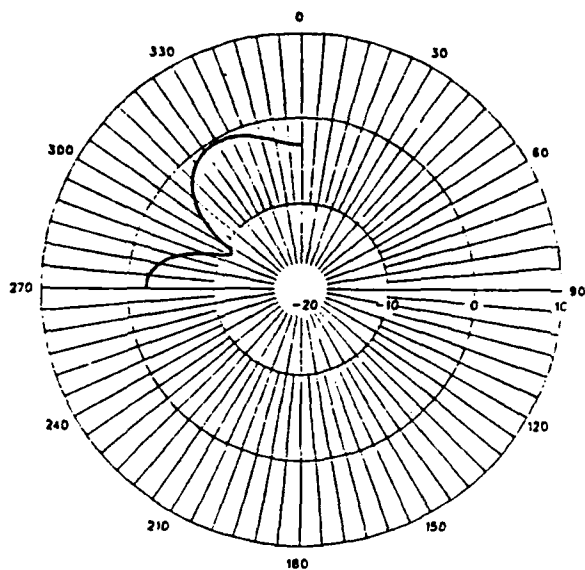
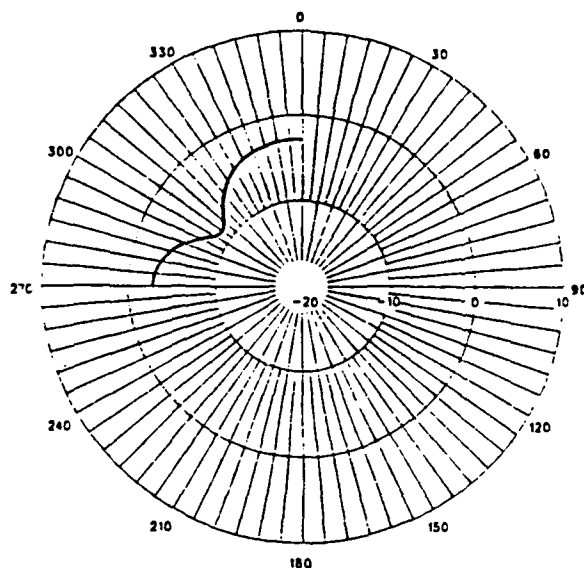


Figure 249. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 8 MHz

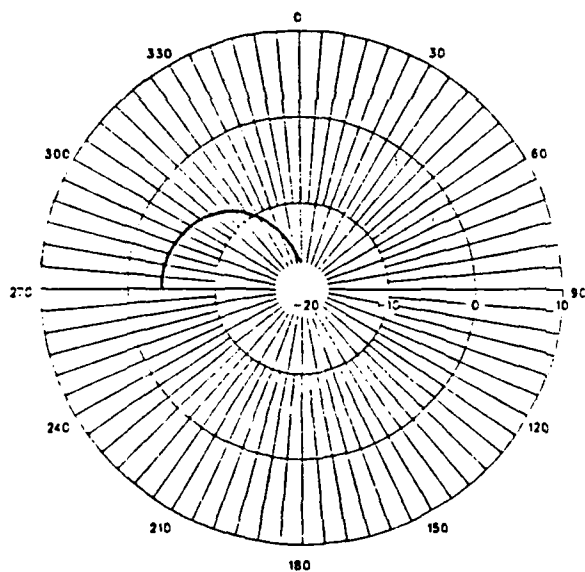
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

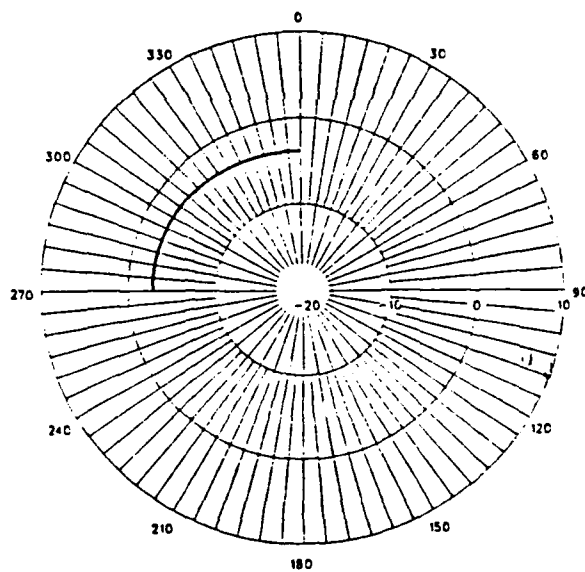
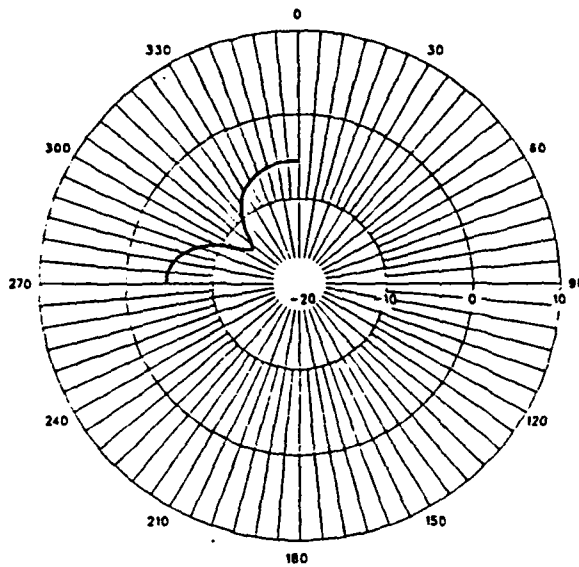
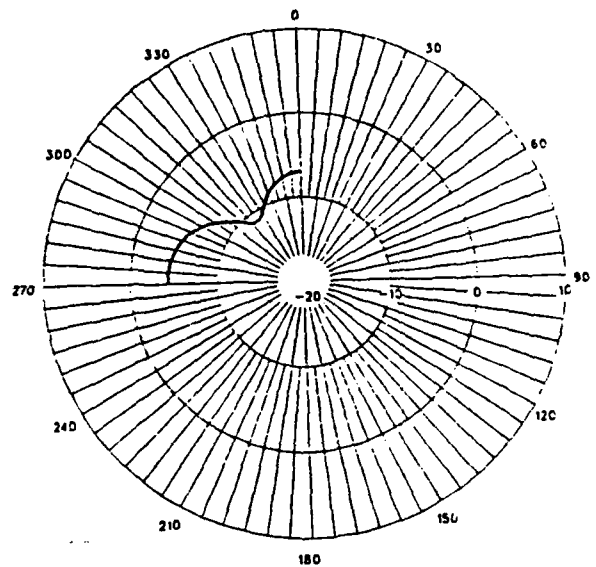


Figure 250. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 8 MHz

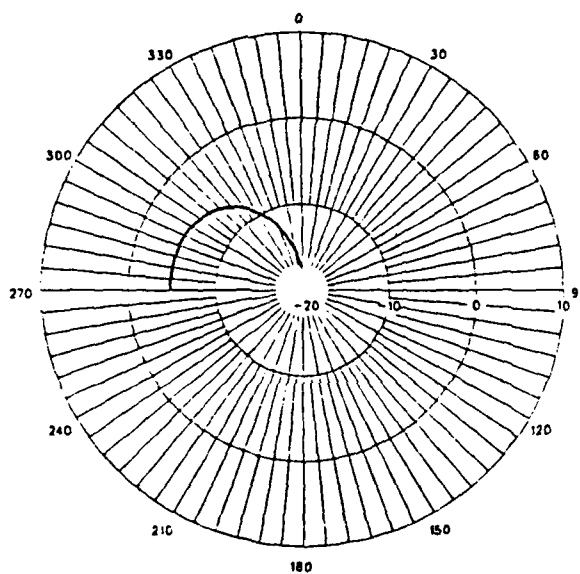
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

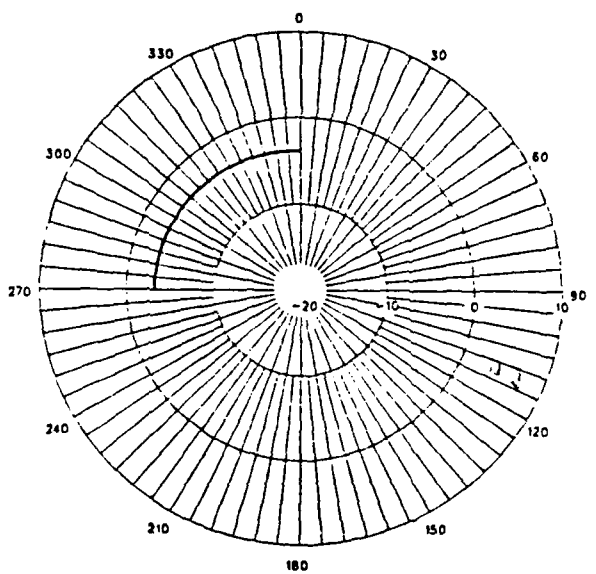
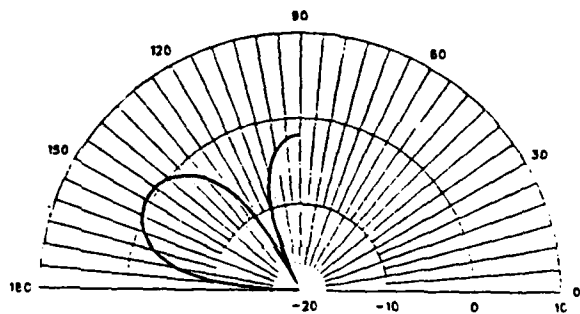
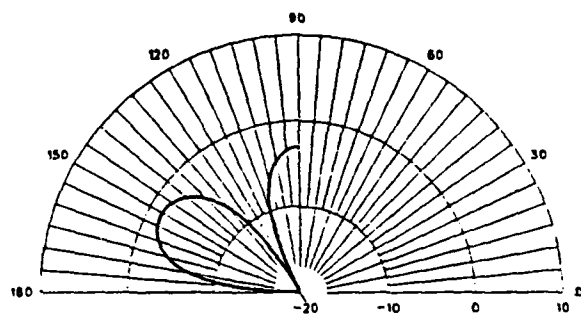


Figure 251. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 8 MHz

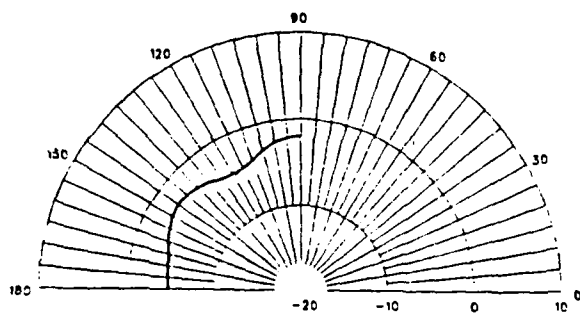
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 9 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 9 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 9 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 9 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

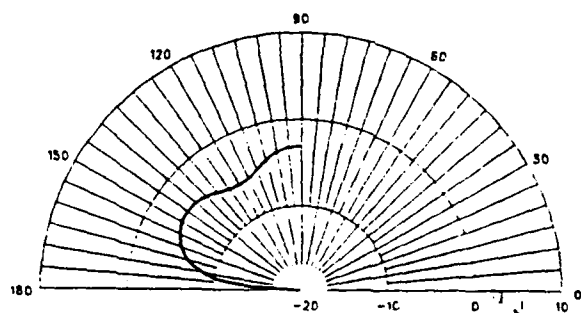
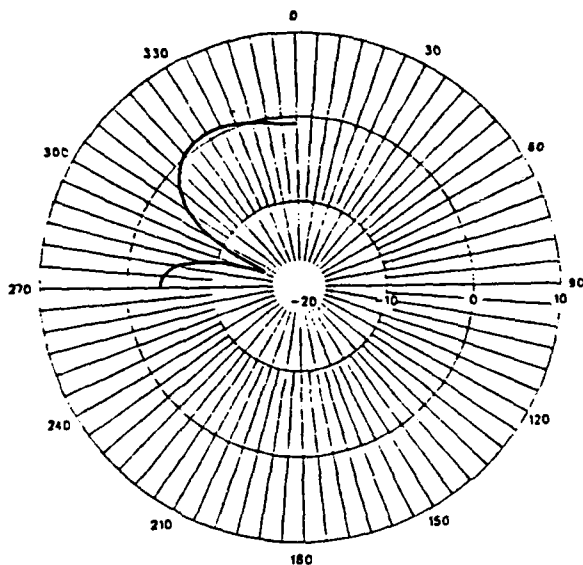
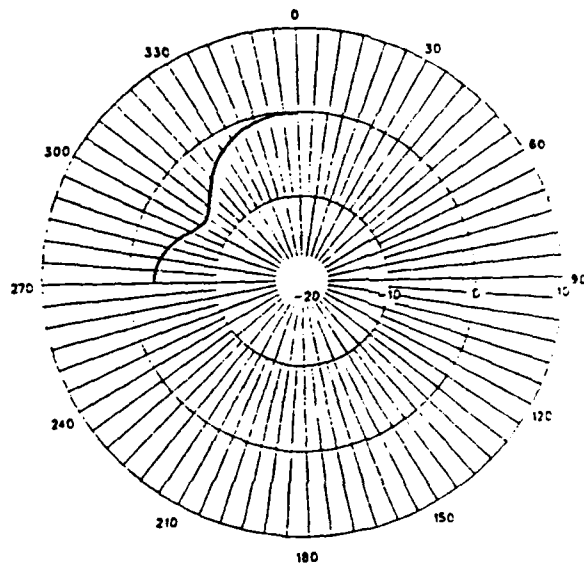


Figure 252. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 9 MHz

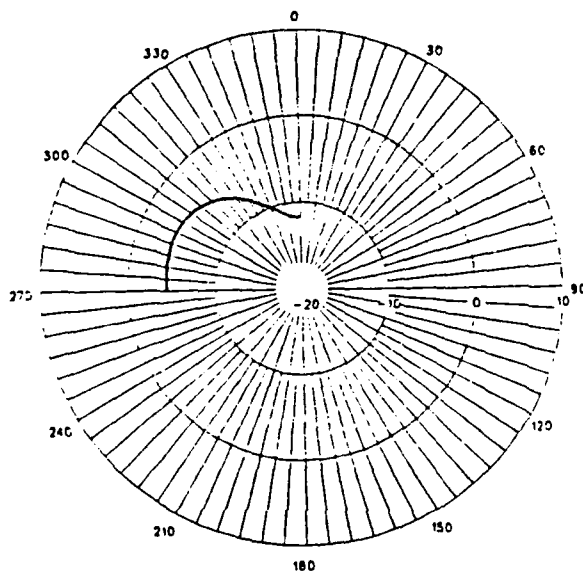
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

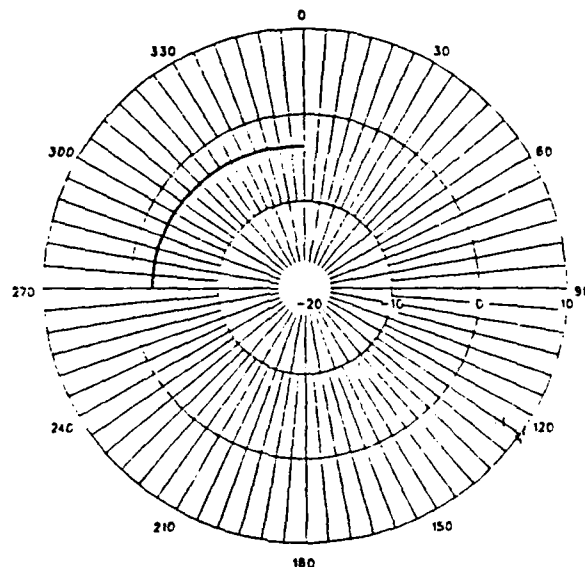
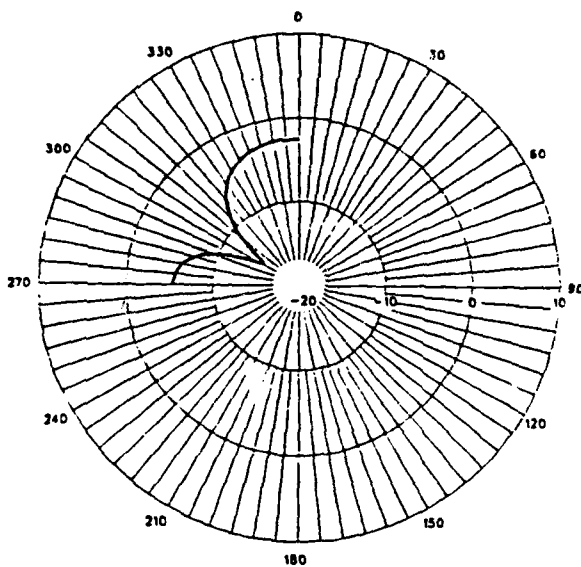
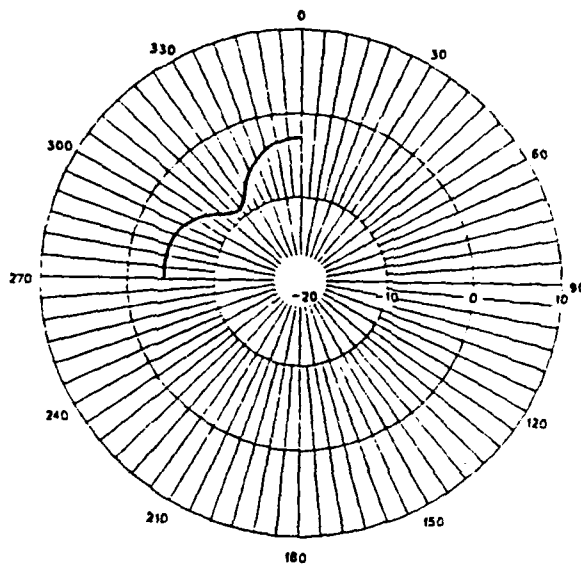


Figure 253. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 9 MHz

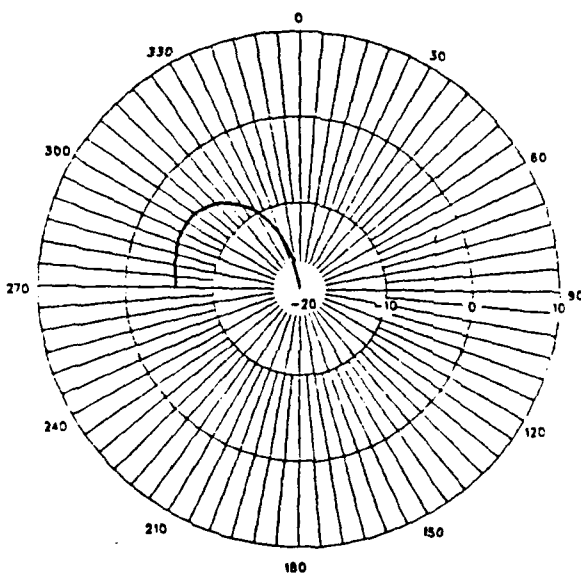
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

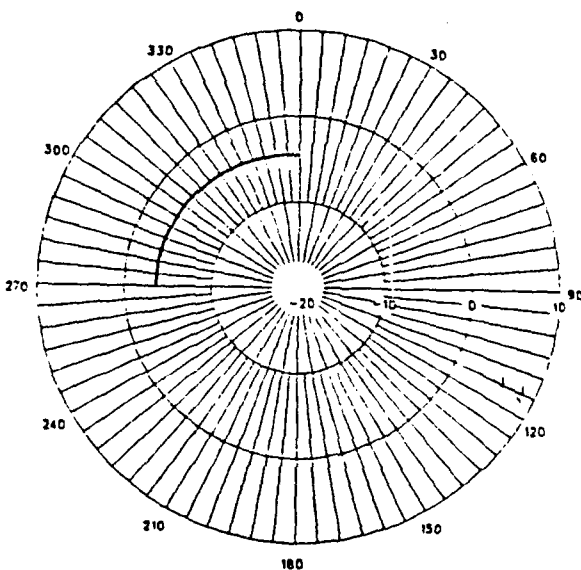
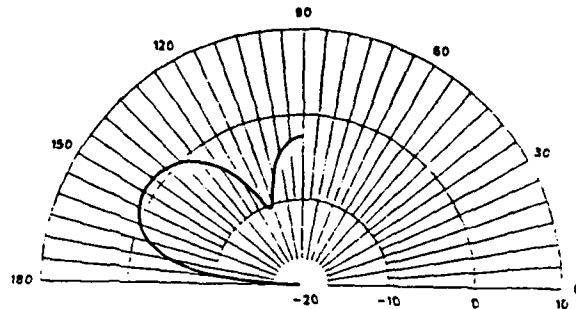
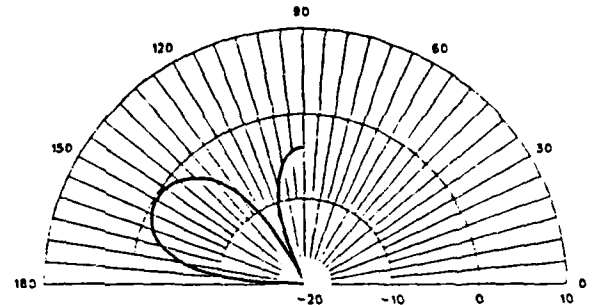


Figure 254. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 9 MHz

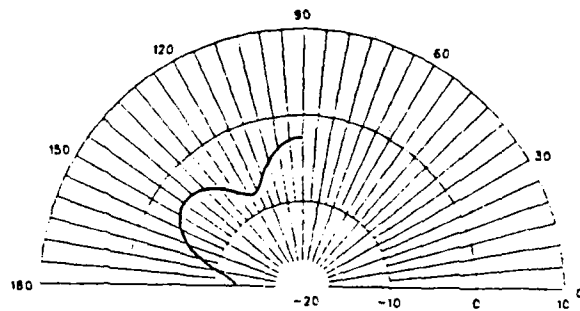
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 10 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 10 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 10 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 10 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

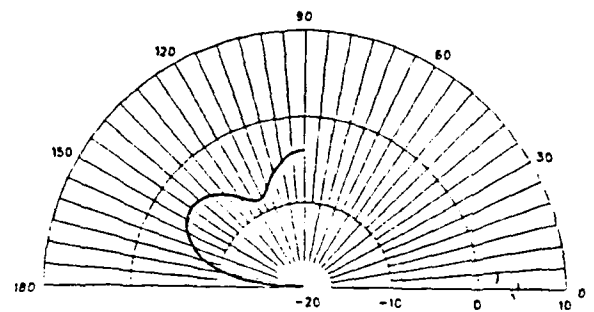
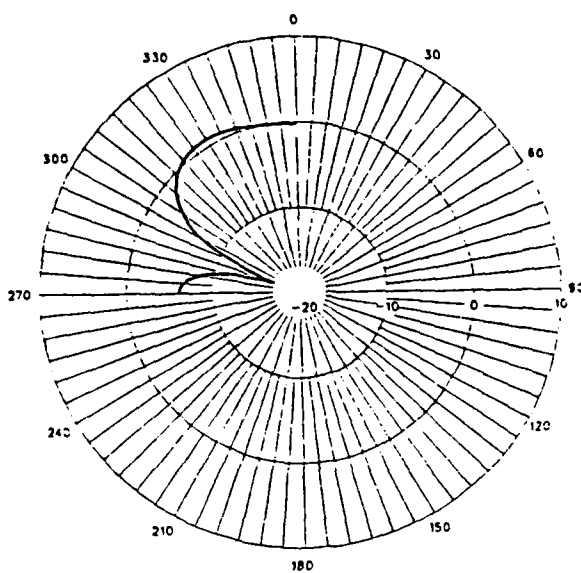
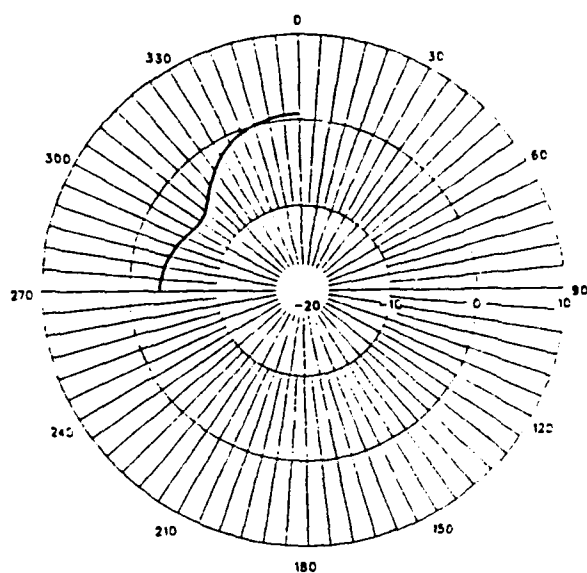


Figure 255. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 10 MHz

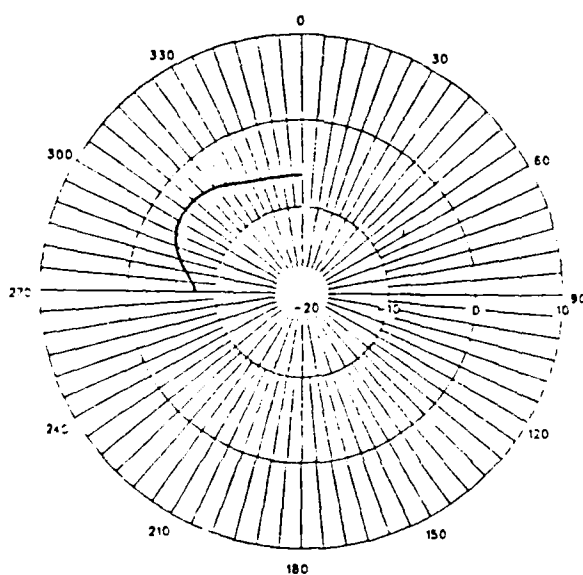
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

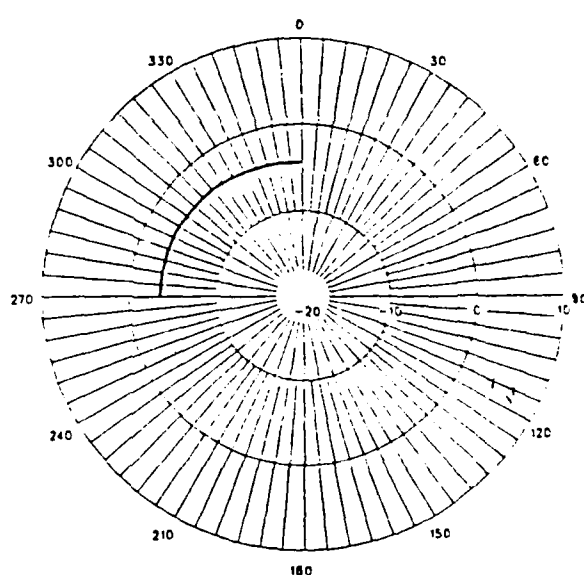
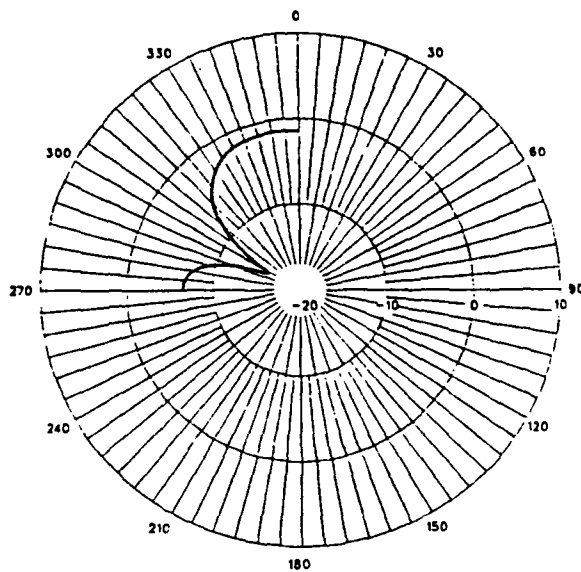
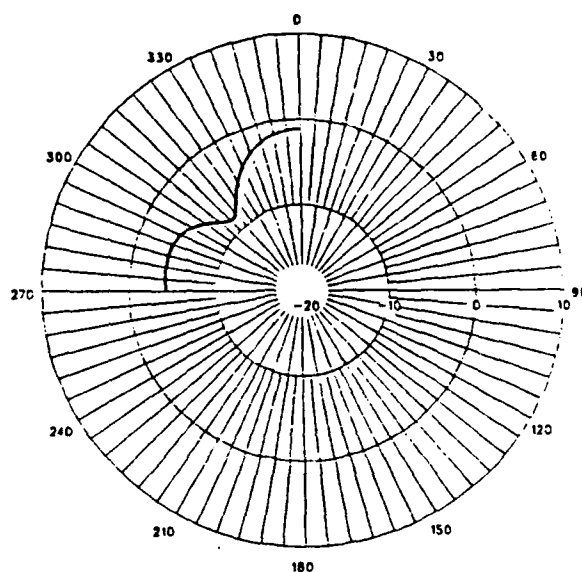


Figure 256. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 10 MHz

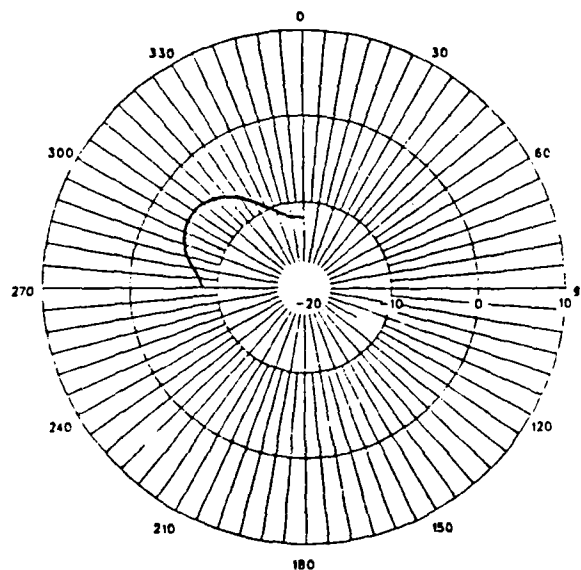
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

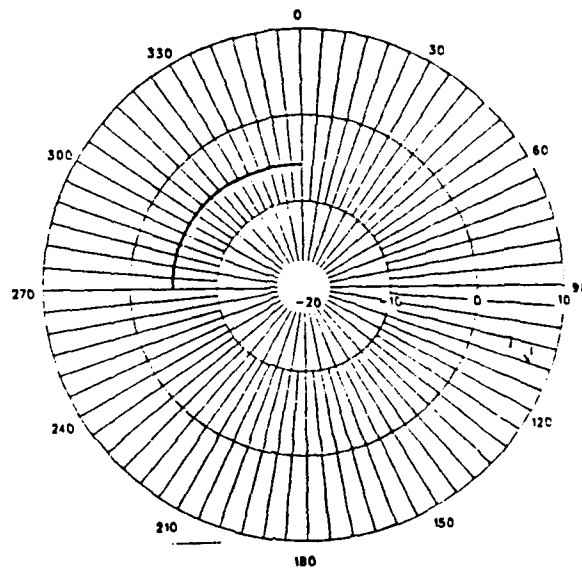
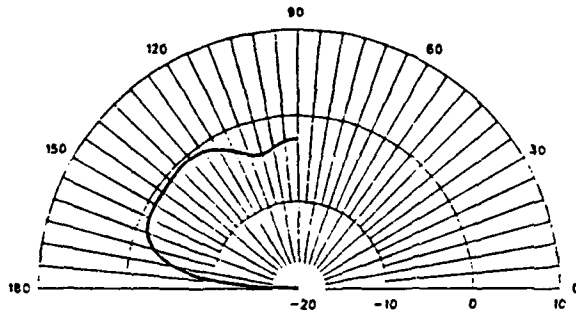
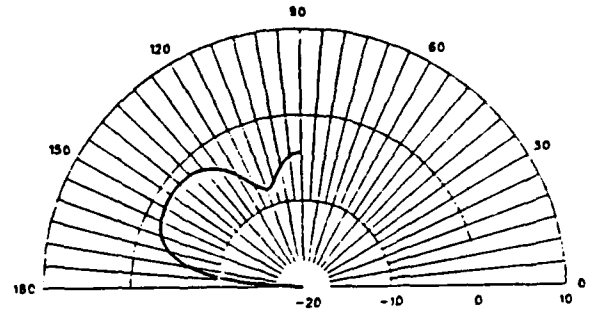


Figure 257. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 10 MHz

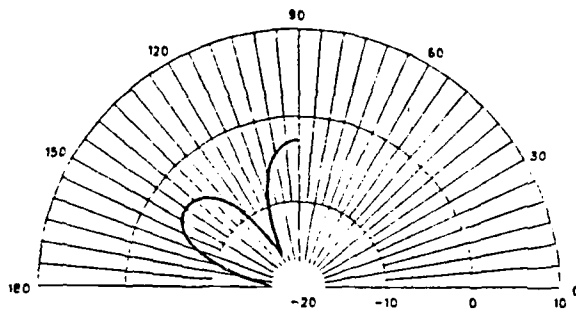
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 11 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 11 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 11 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 11 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

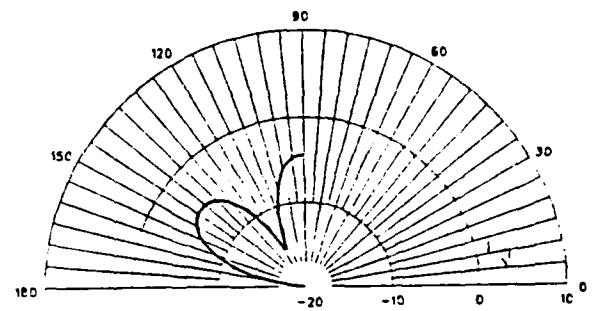
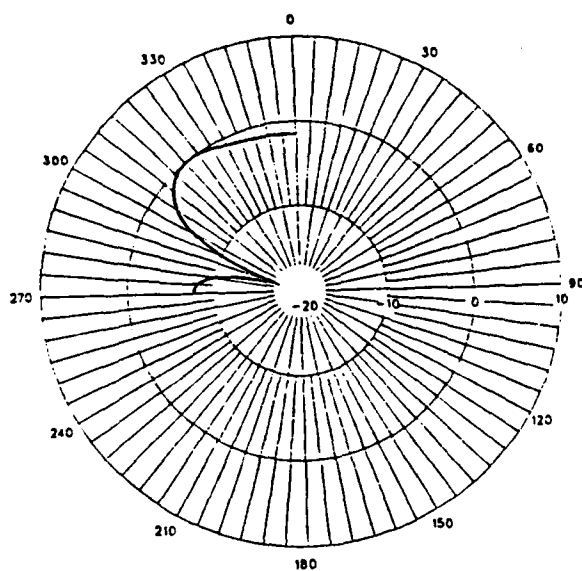
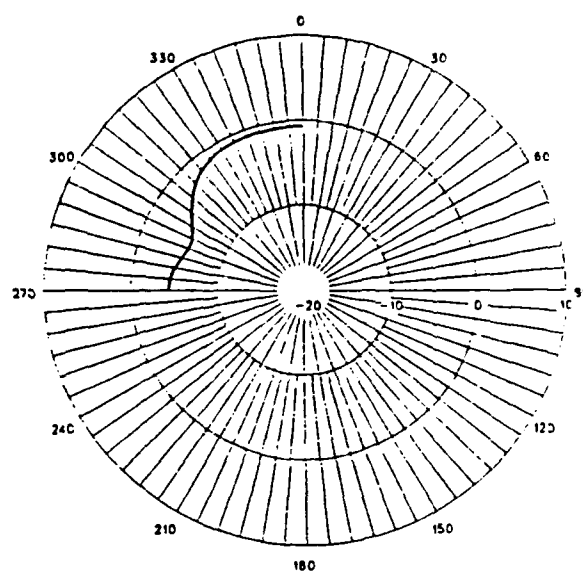


Figure 258. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 11 MHz

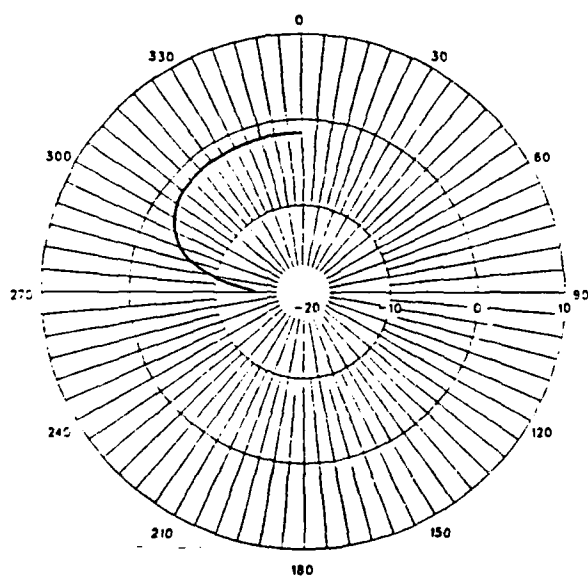
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

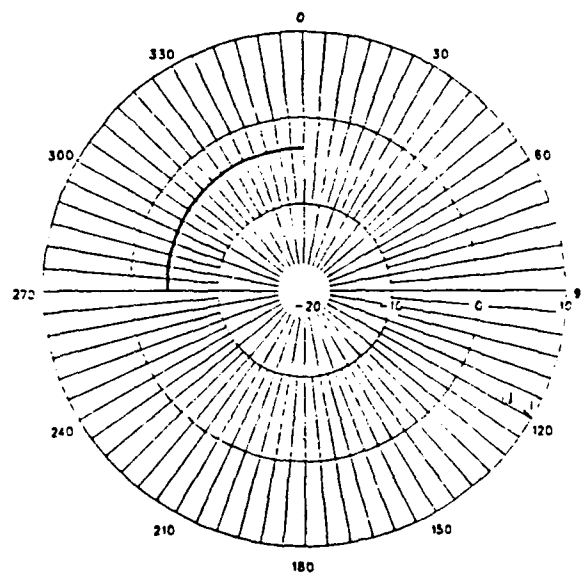
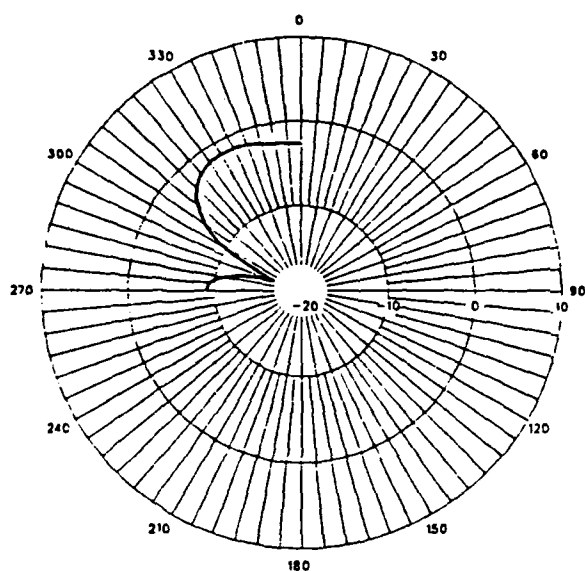
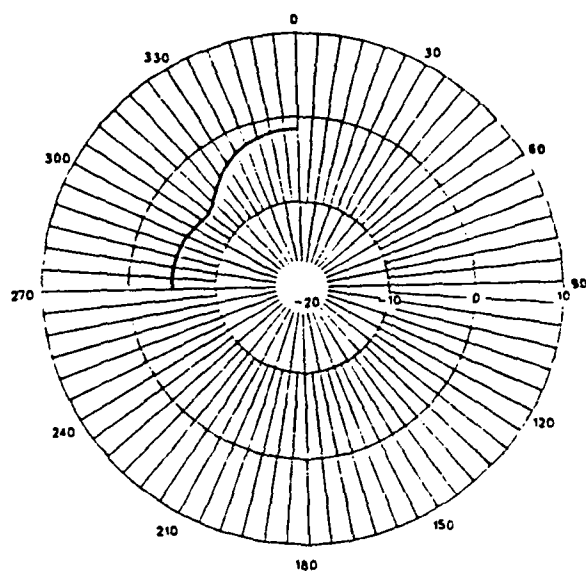


Figure 259. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 11 MHz

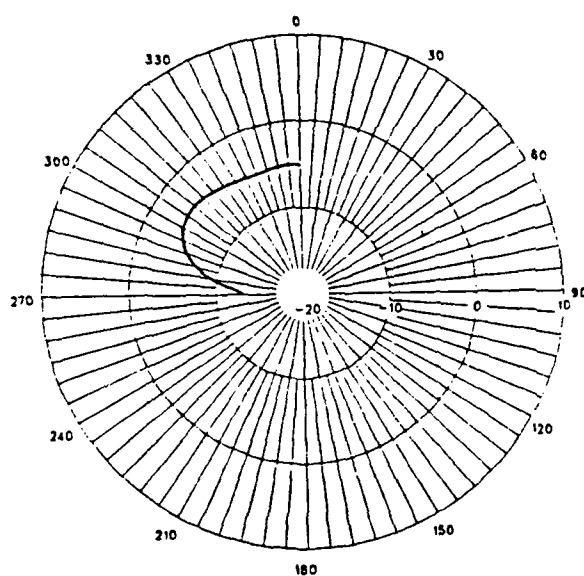
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

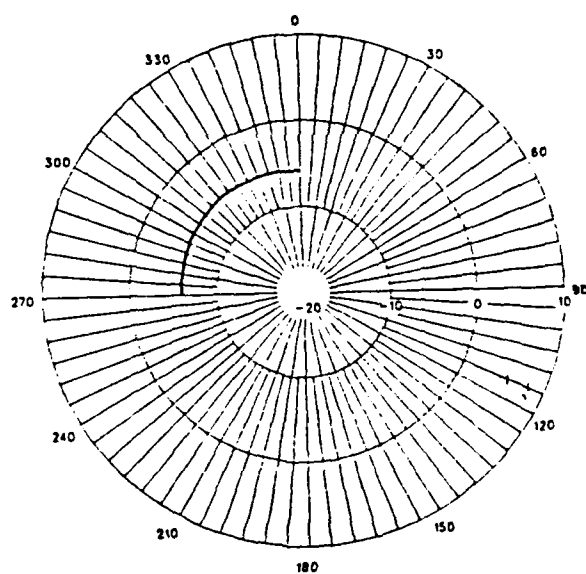
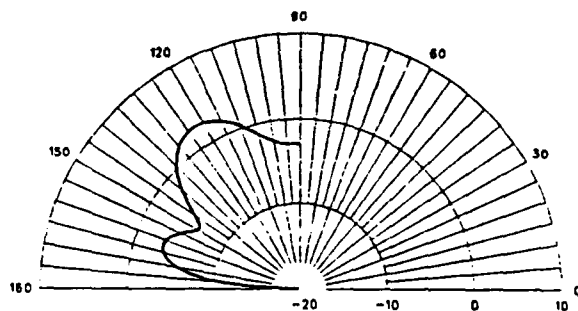
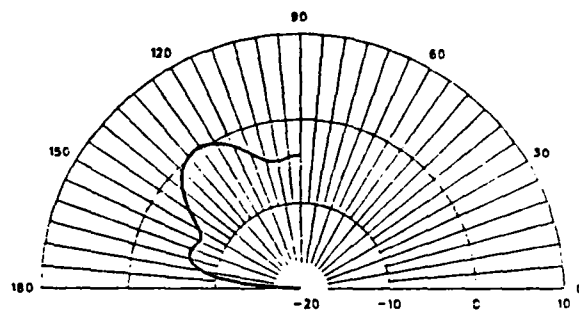


Figure 260. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 11 MHz

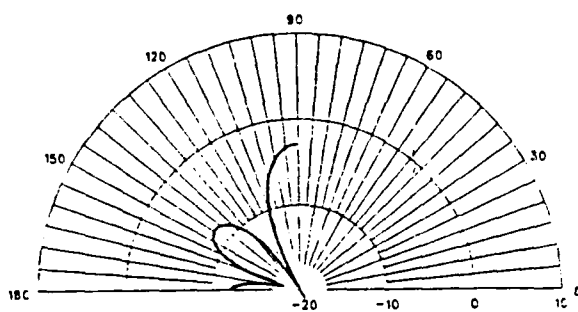
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 12 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 12 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 12 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 12 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

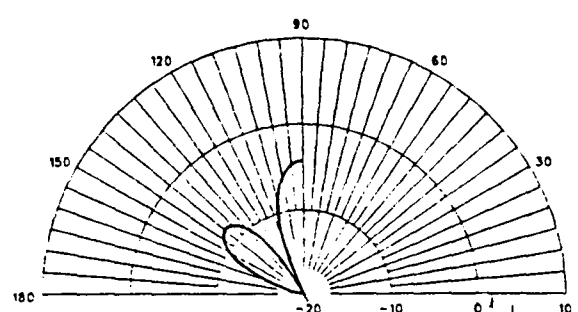
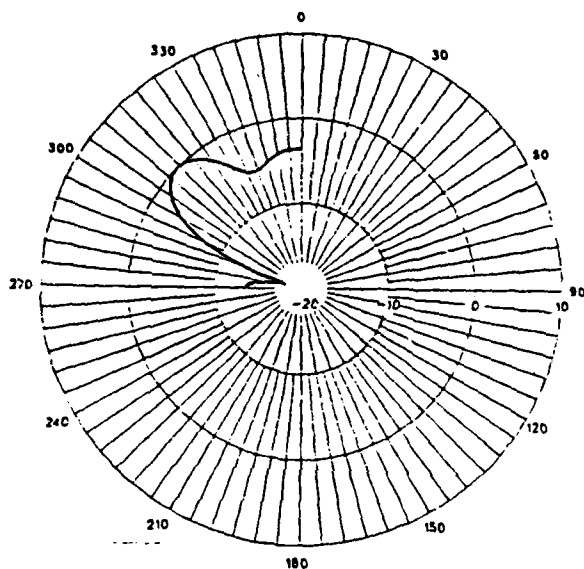
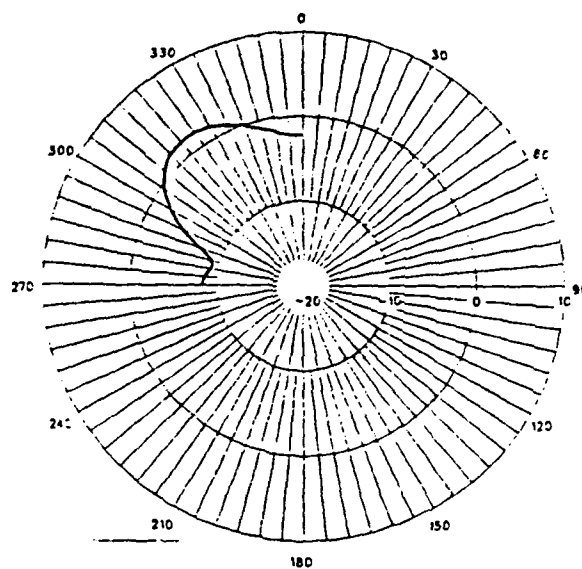


Figure 261. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 12 MHz

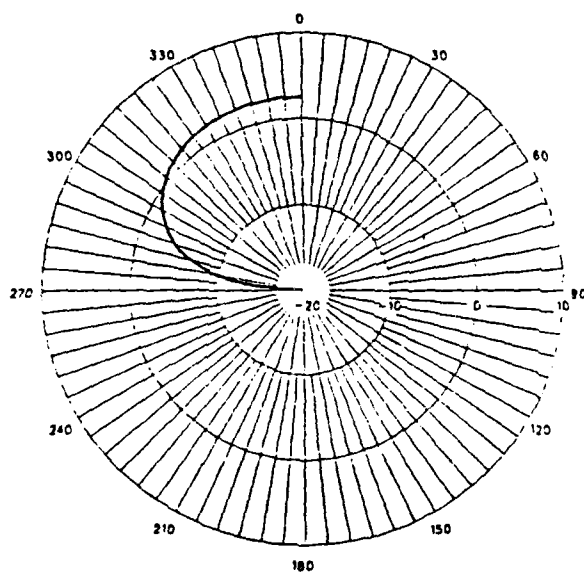
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

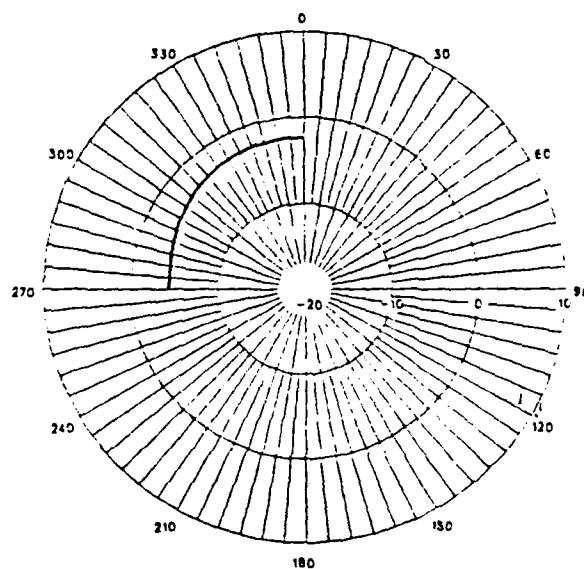
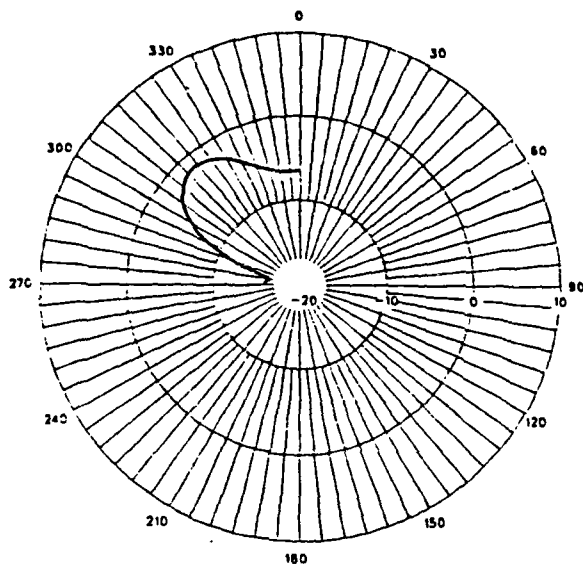
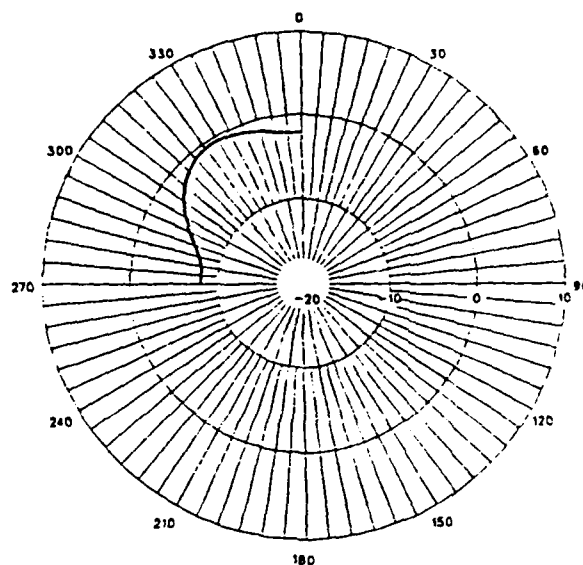


Figure 262. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 12 MHz

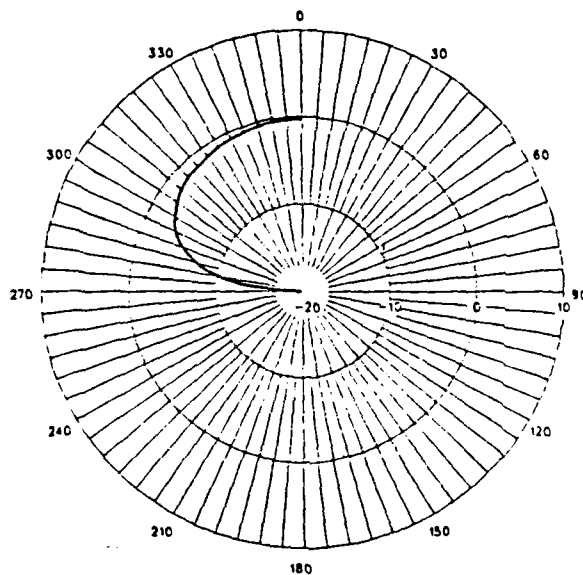
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

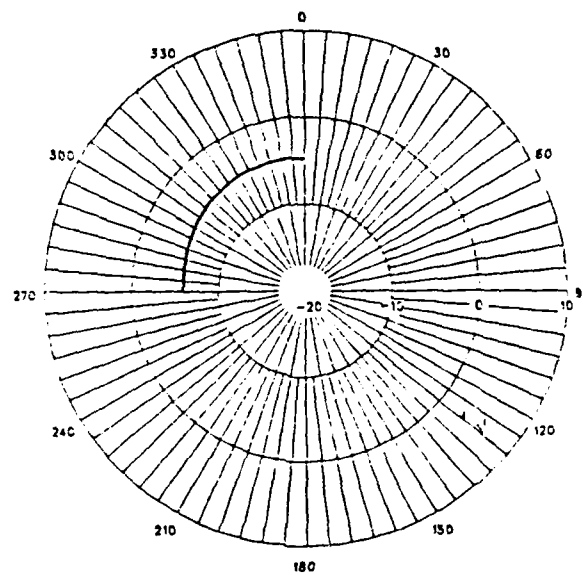
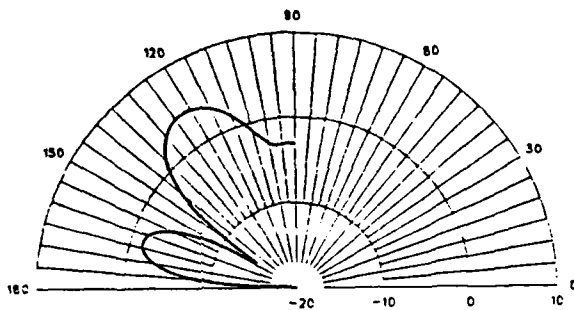
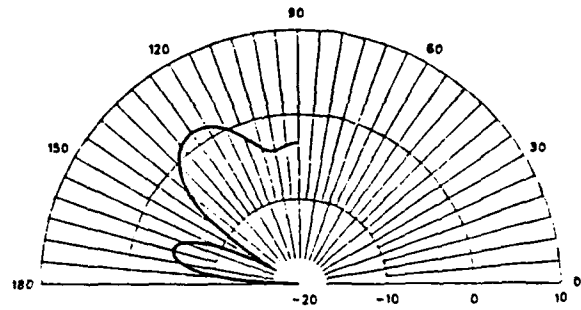


Figure 263. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 12 MHz

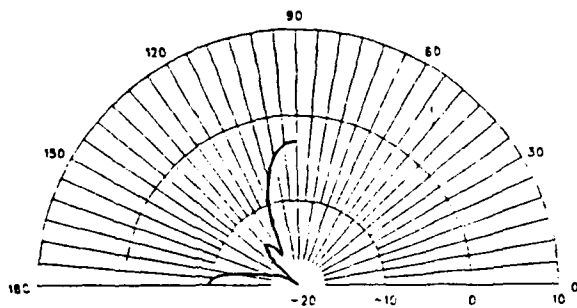
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 13 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 13 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 13 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 13 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

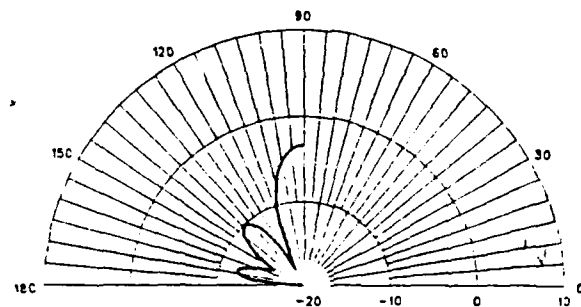
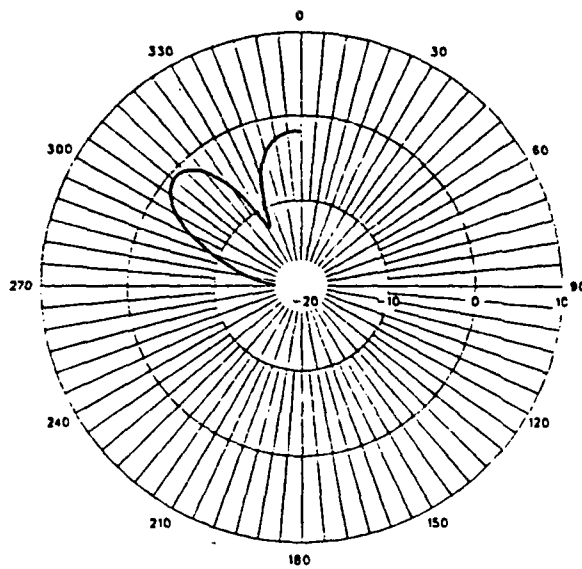
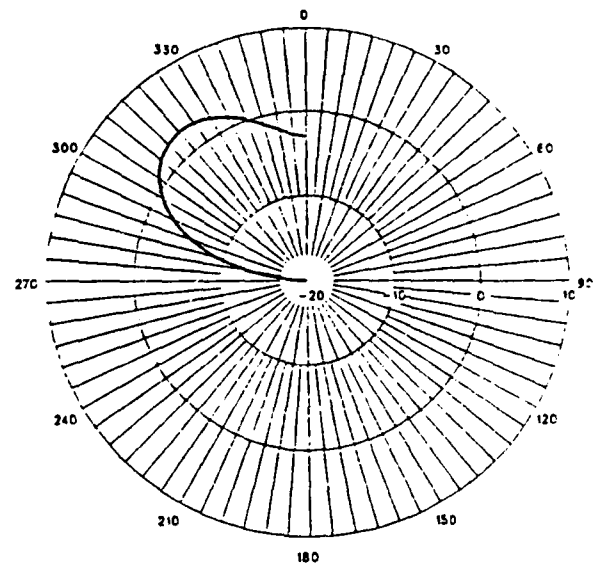


Figure 264. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 13 MHz

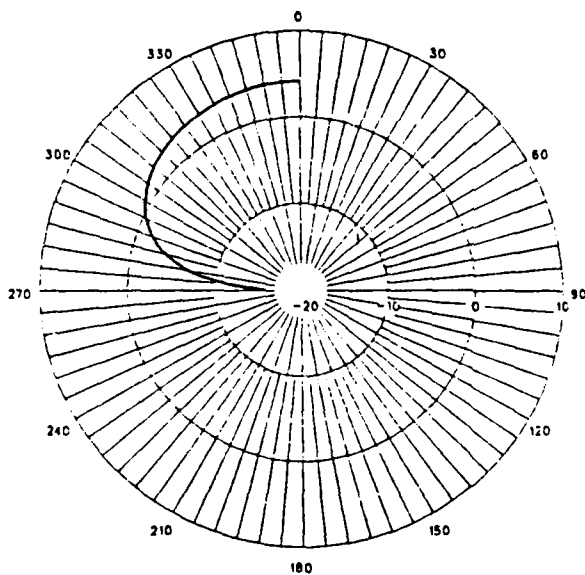
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

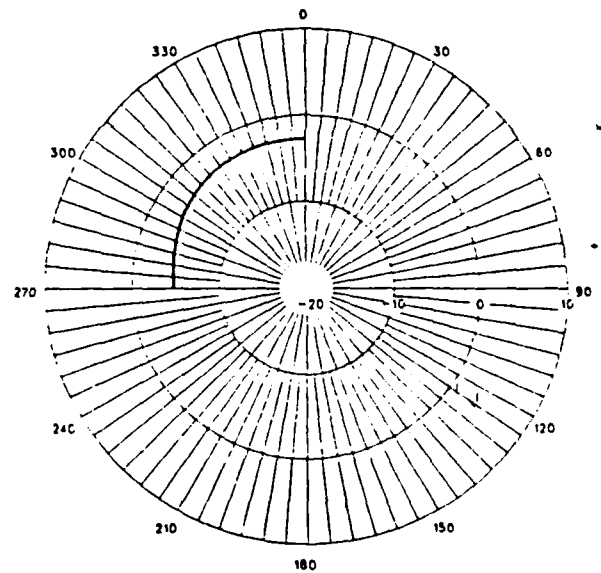
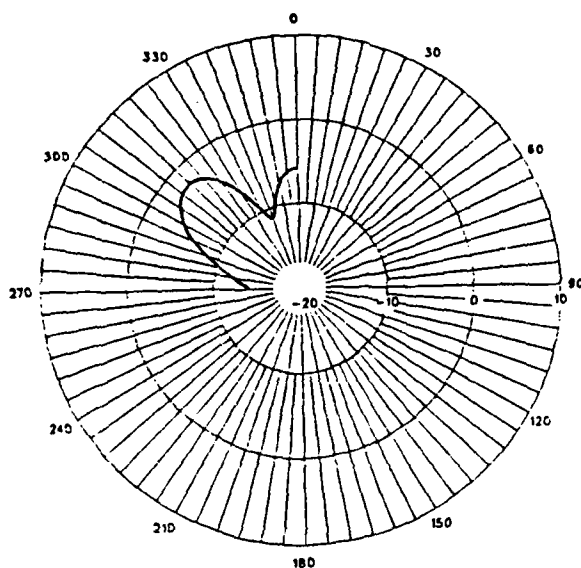
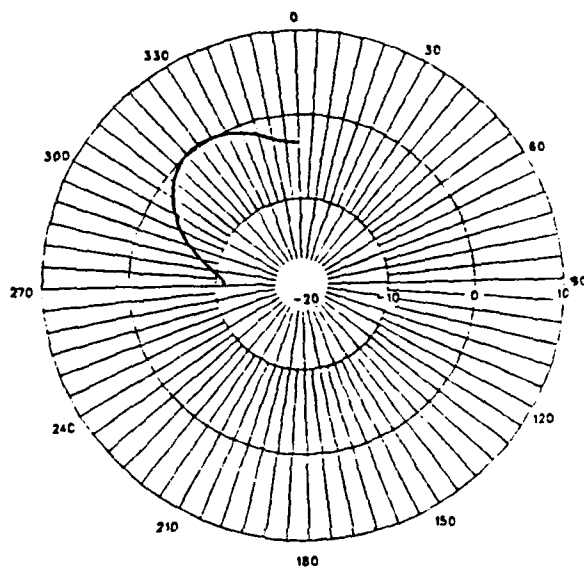


Figure 265. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 13 MHz

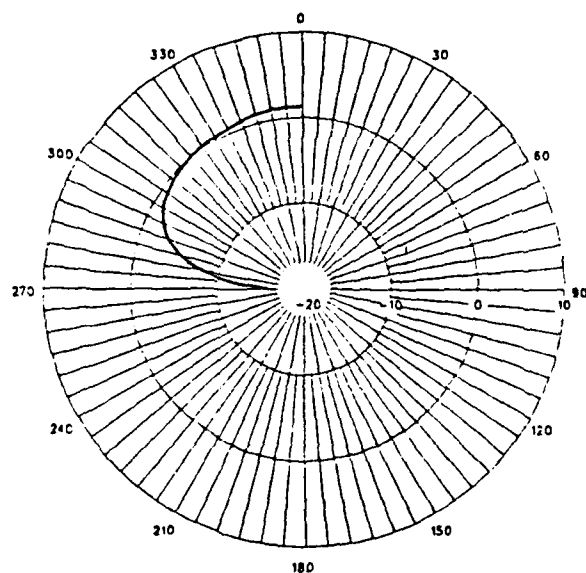
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

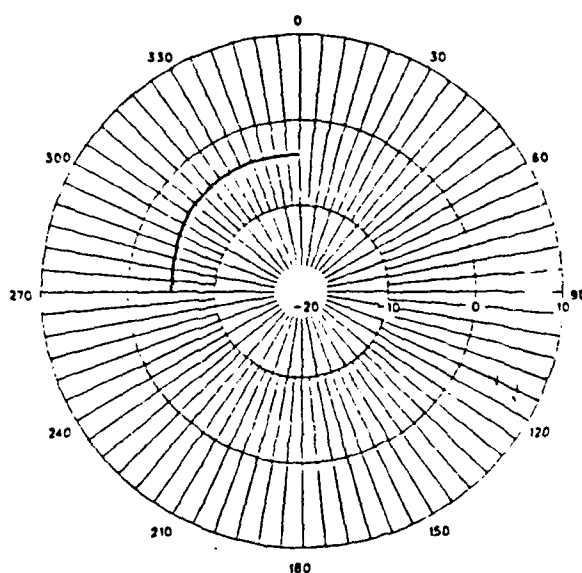
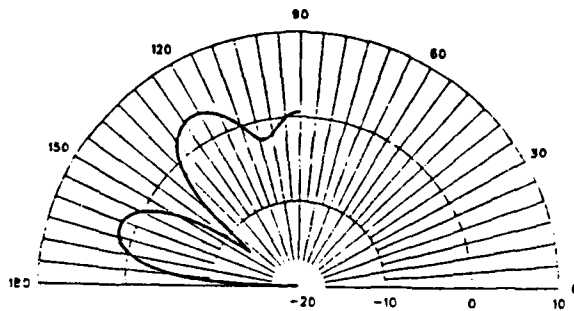
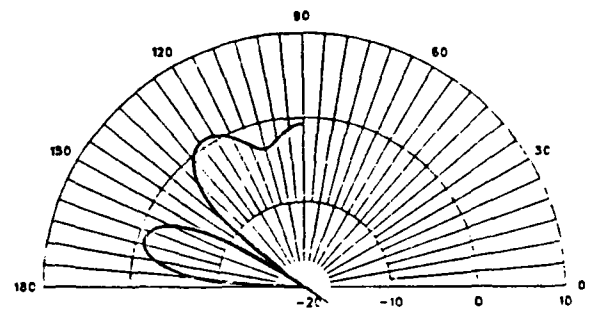


Figure 266. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 13 MHz

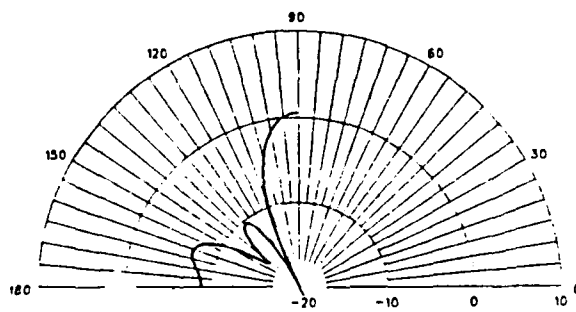
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 14 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 14 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 14 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 14 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

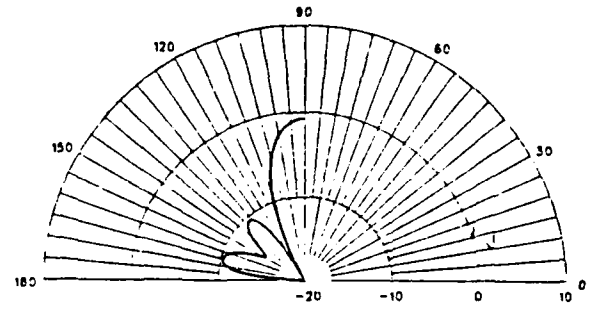
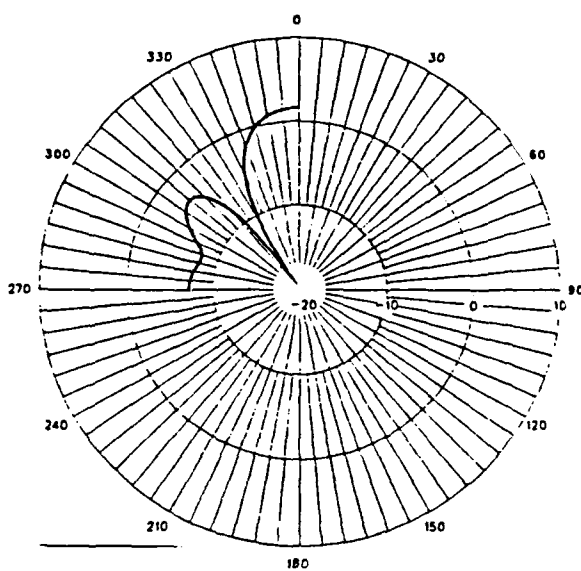
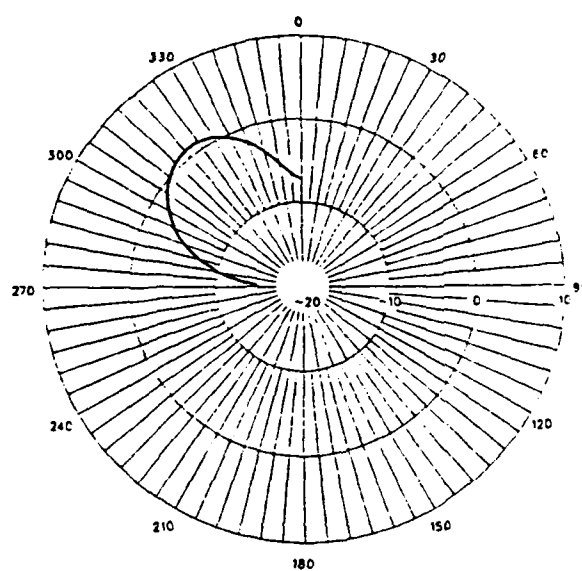


Figure 267. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 14 MHz

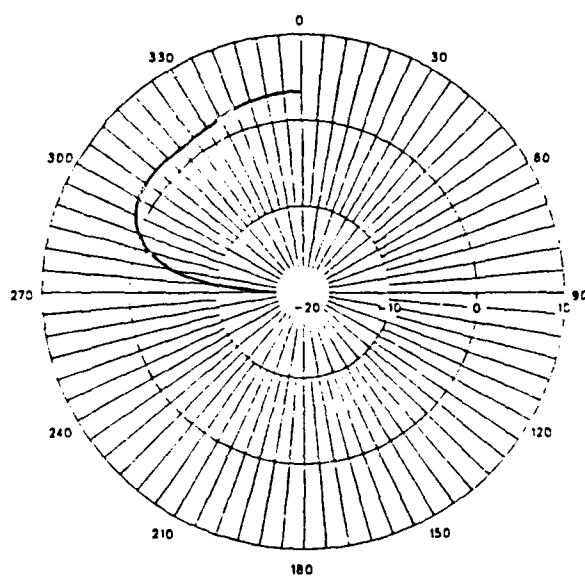
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

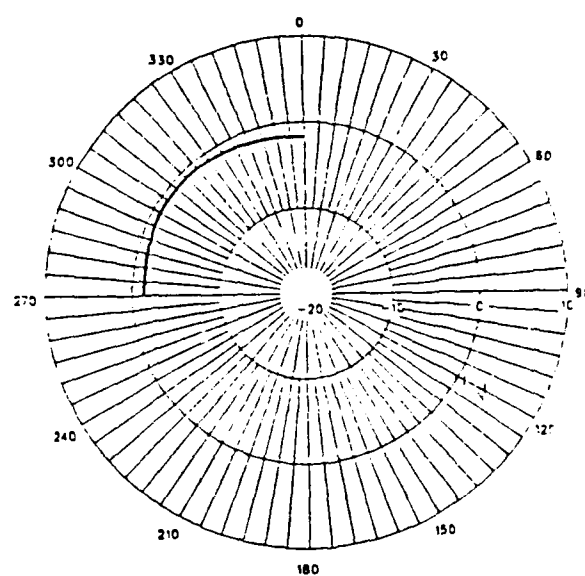
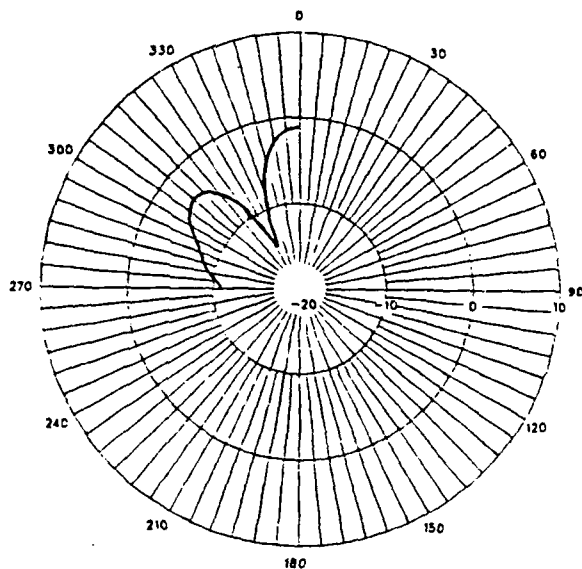
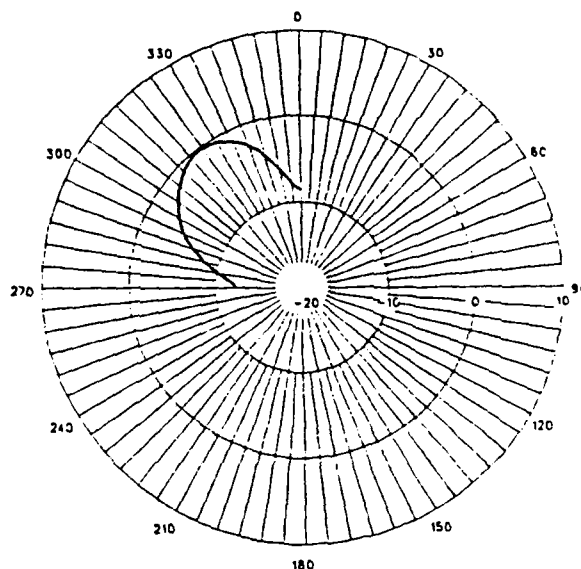


Figure 268. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 14 MHz

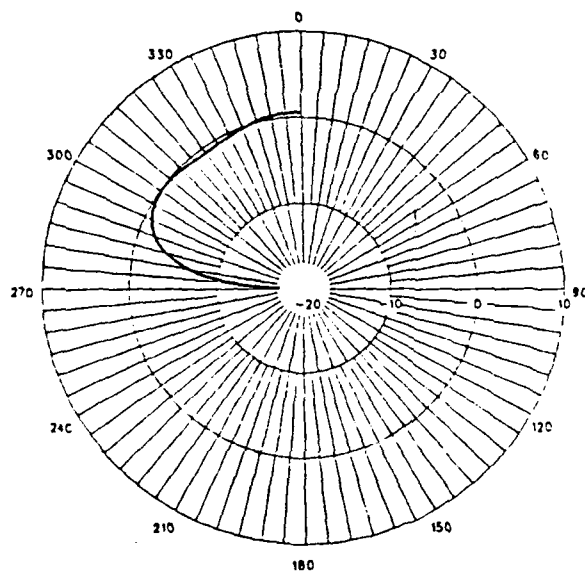
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

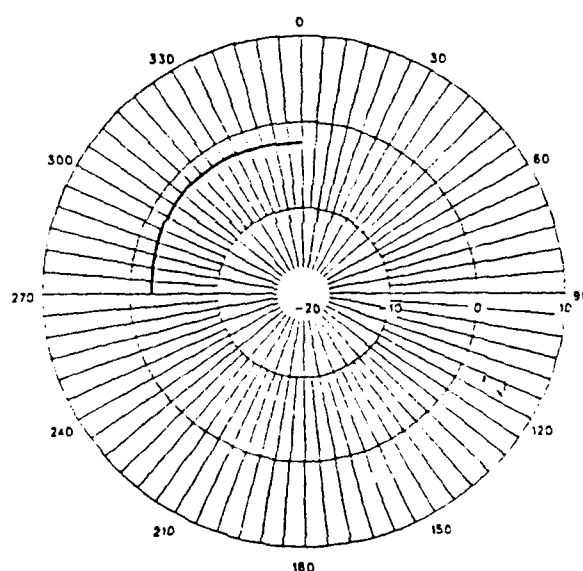
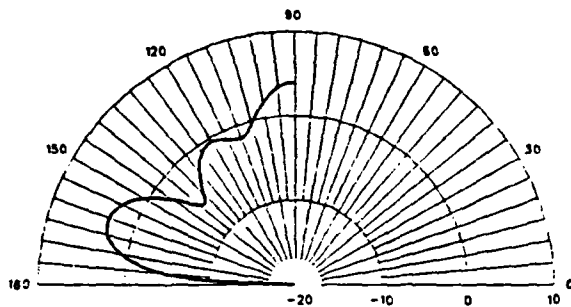
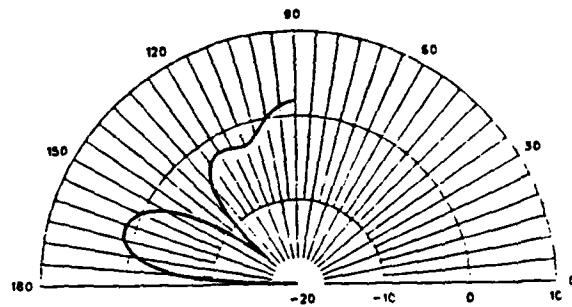


Figure 269. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 14 MHz

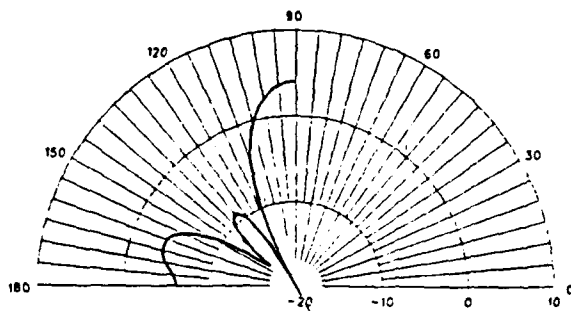
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 15 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 15 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 15 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 15 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

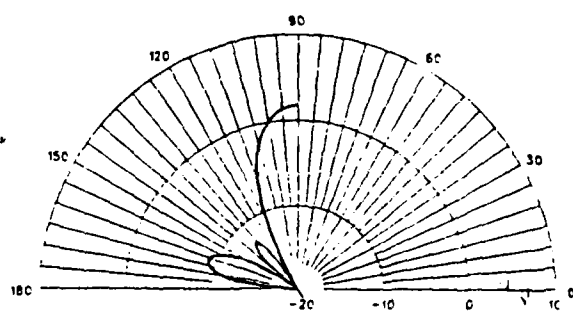
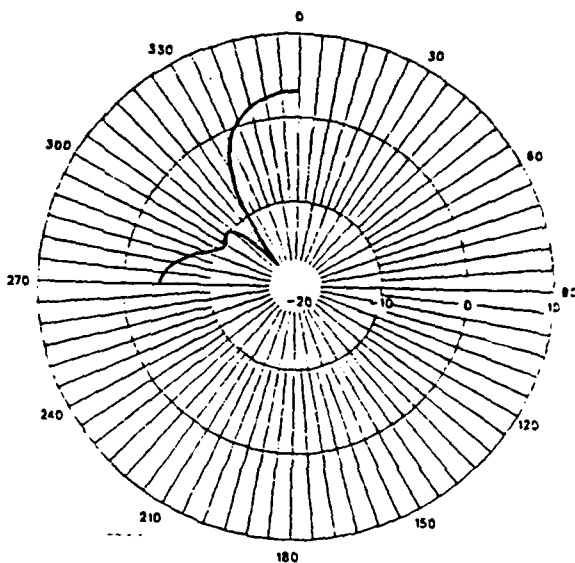
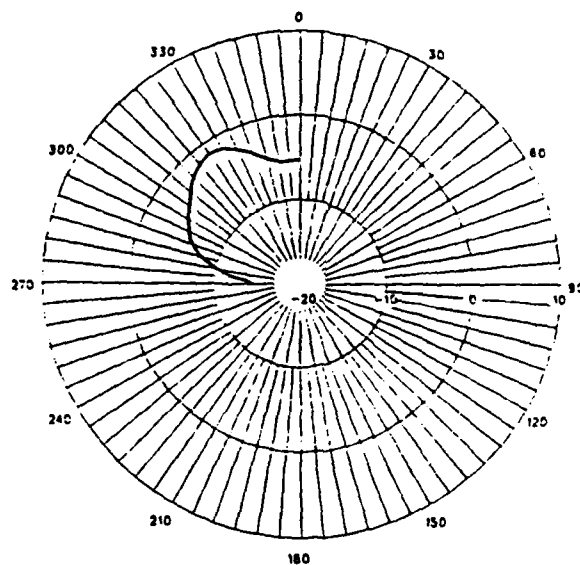


Figure 270. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 15 MHz

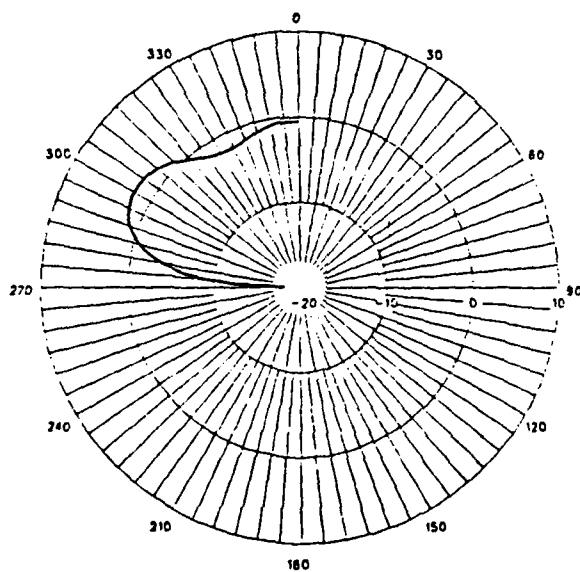
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE ≈ 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE ≈ 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE ≈ 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE ≈ 80

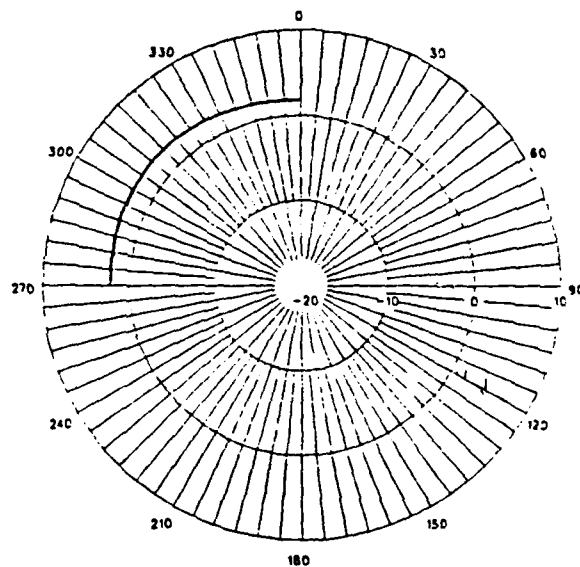
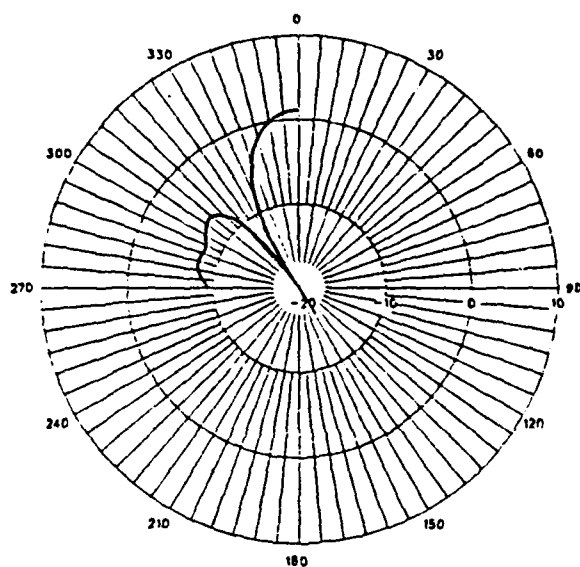
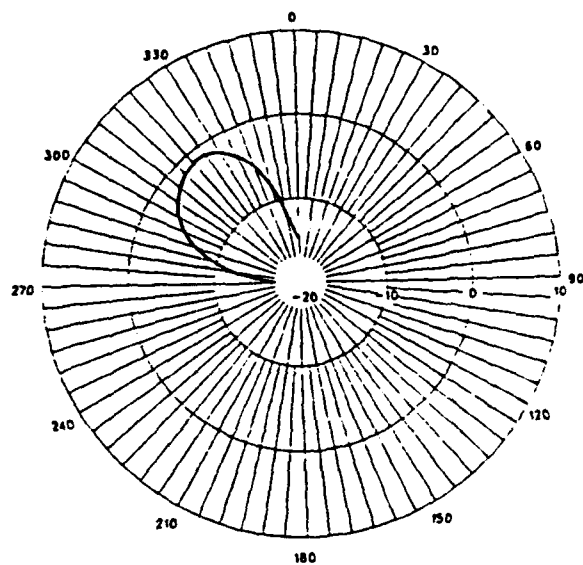


Figure 271. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 15 MHz

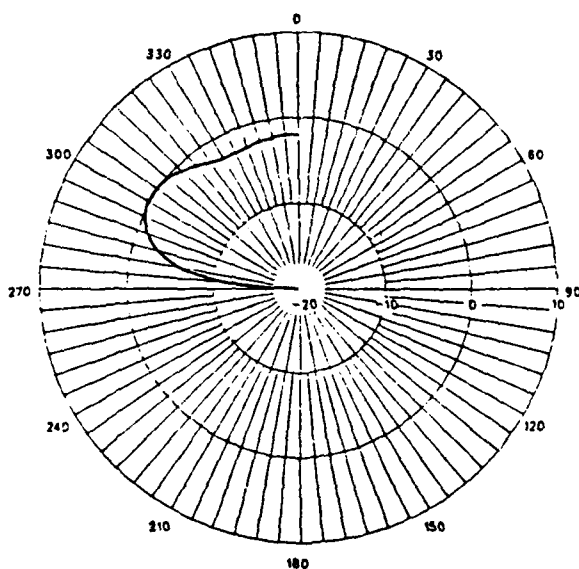
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

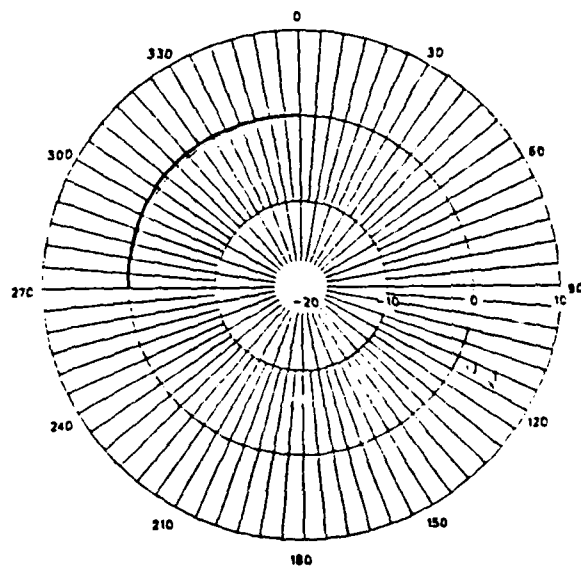
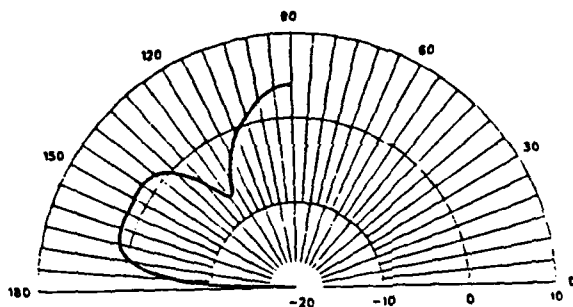
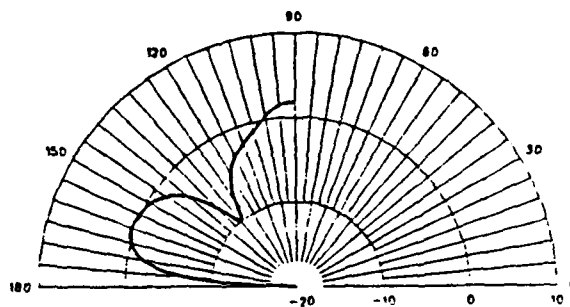


Figure 272. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 15 MHz

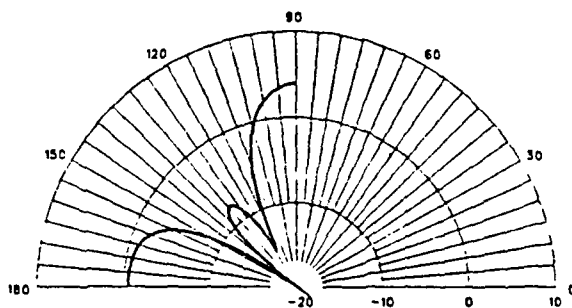
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 16 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 16 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 16 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 16 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

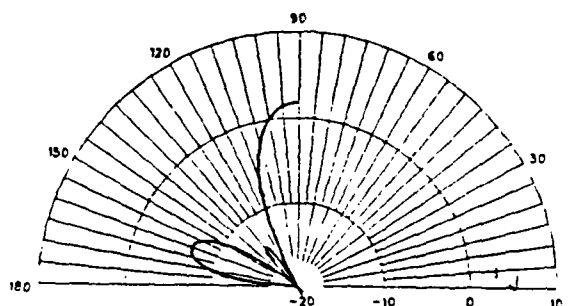
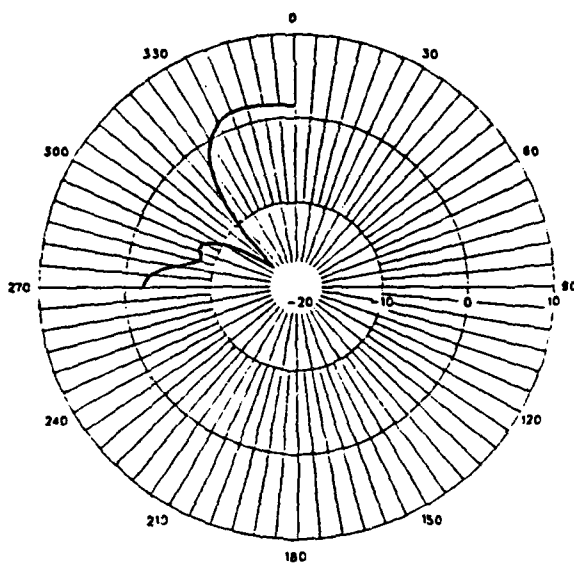
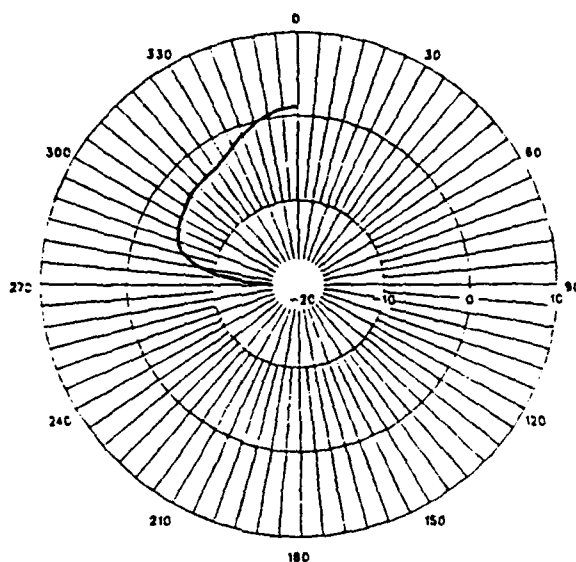


Figure 273. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 16 MHz

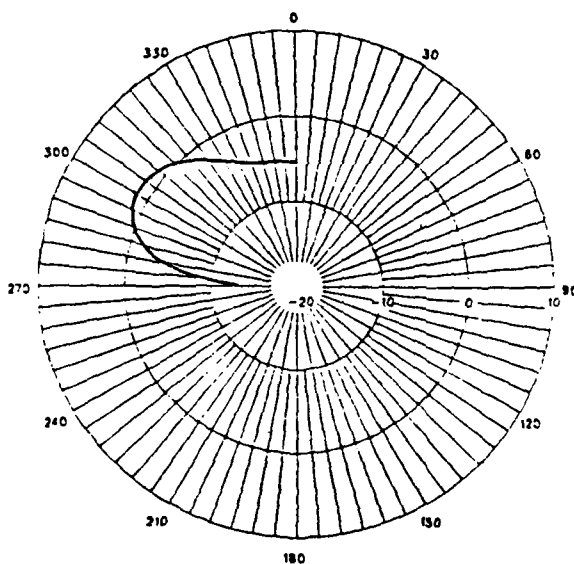
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

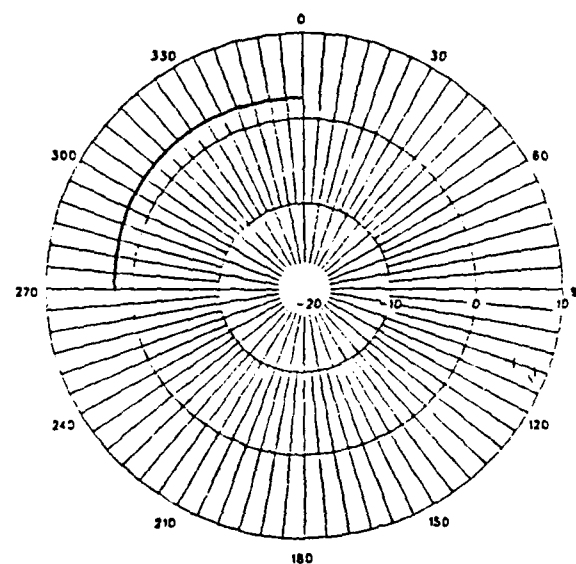
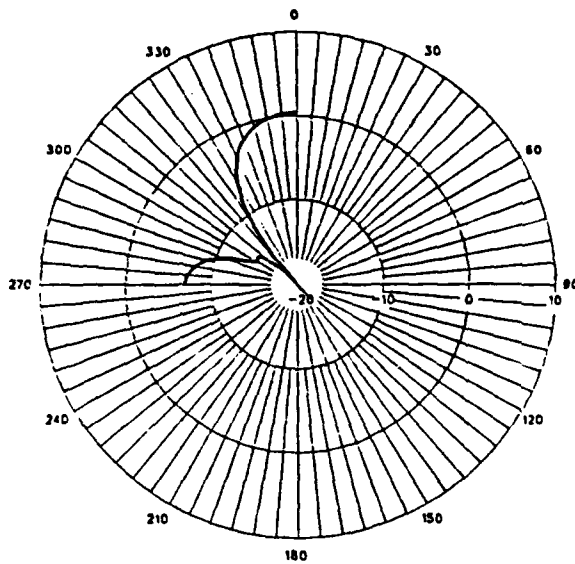
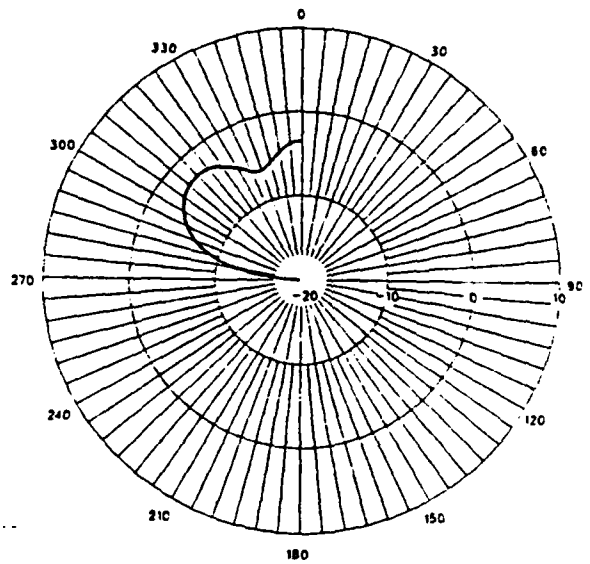


Figure 274. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 16 MHz

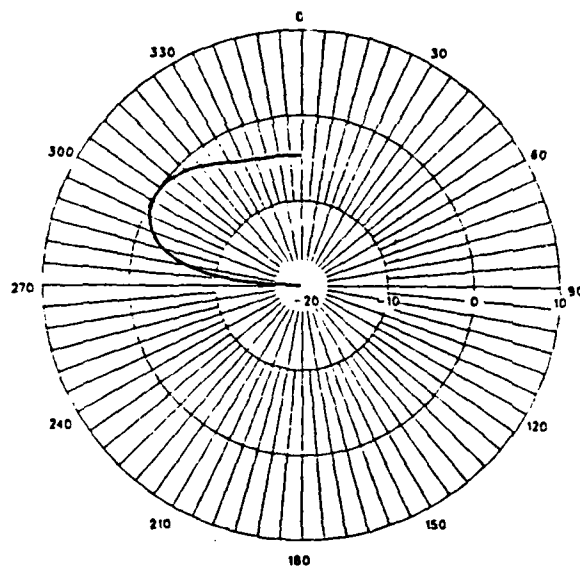
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

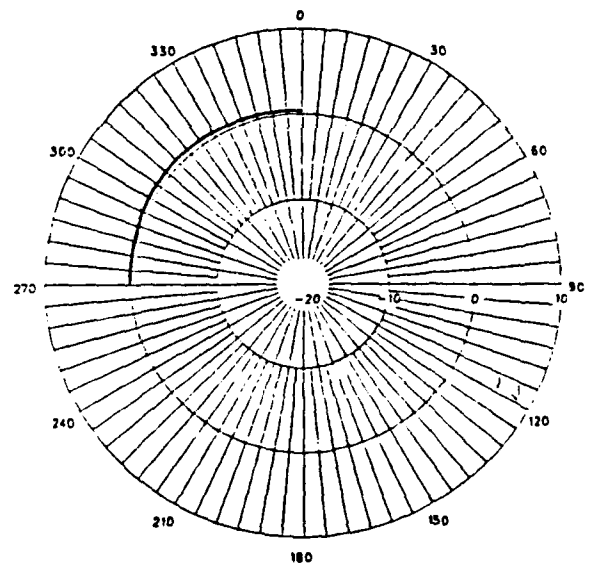
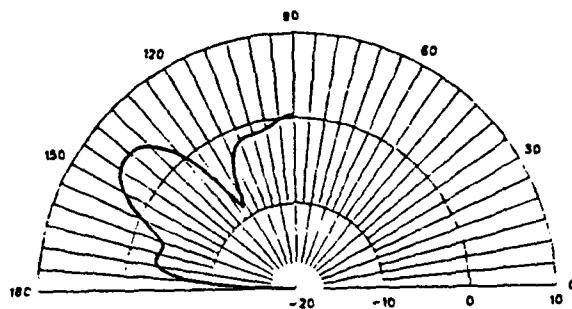
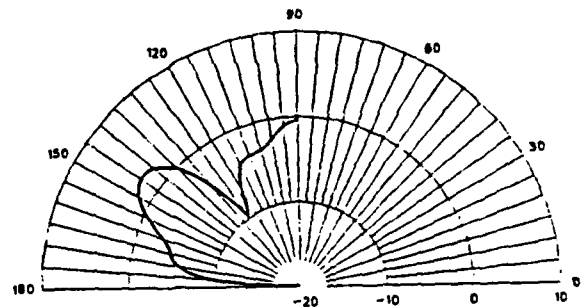


Figure 275. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 16 MHz

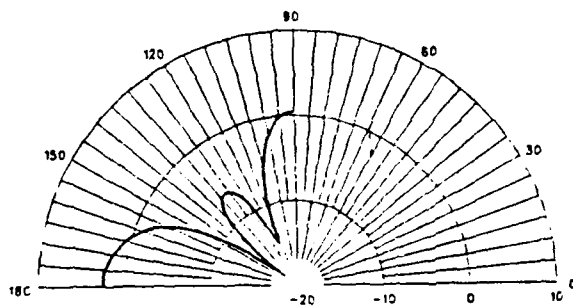
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 17 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 17 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 17 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 17 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

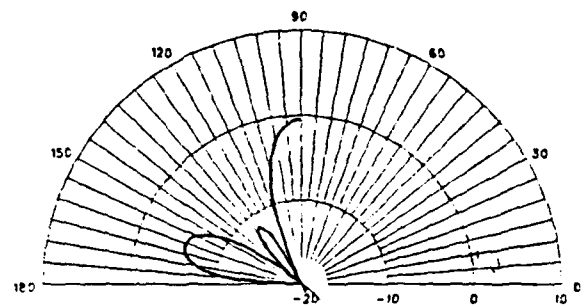
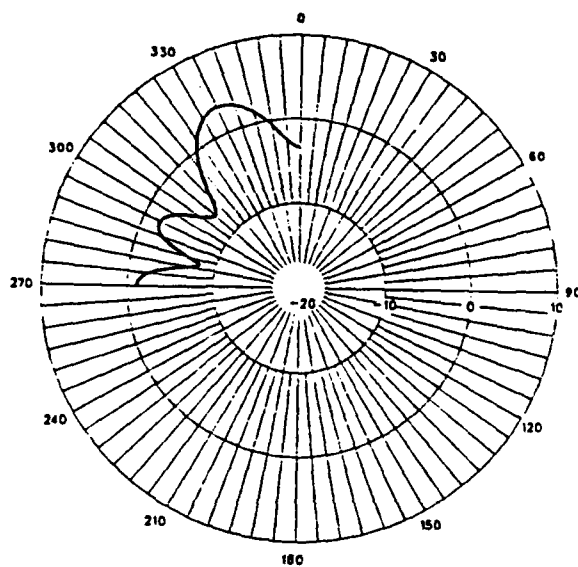
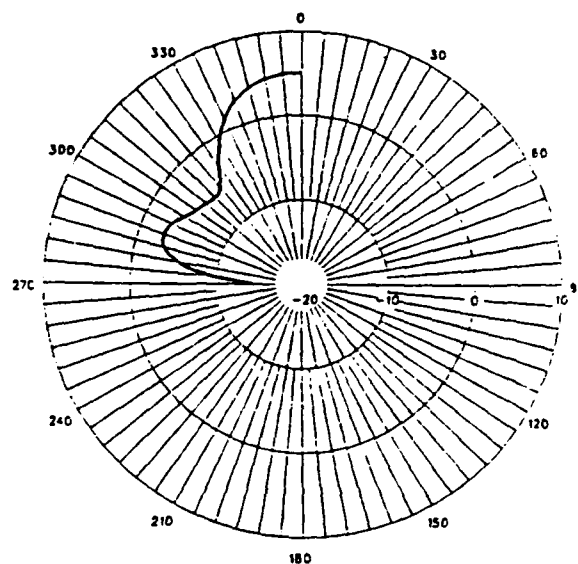


Figure 276. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 17 MHz

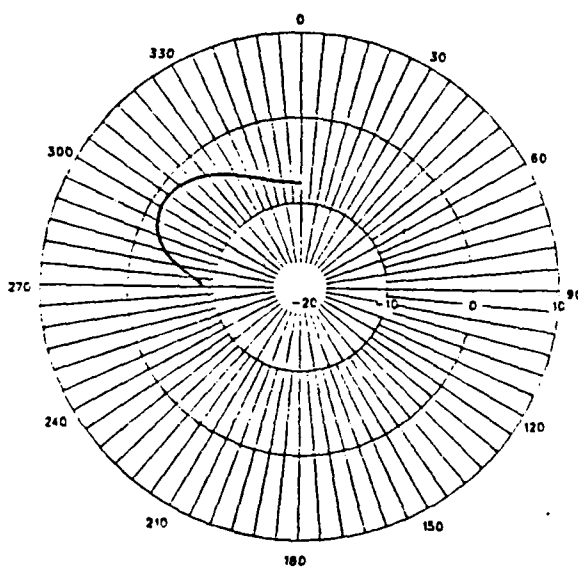
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

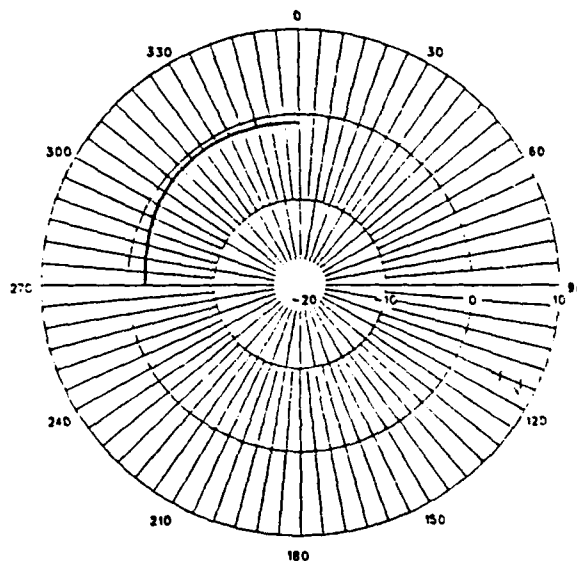
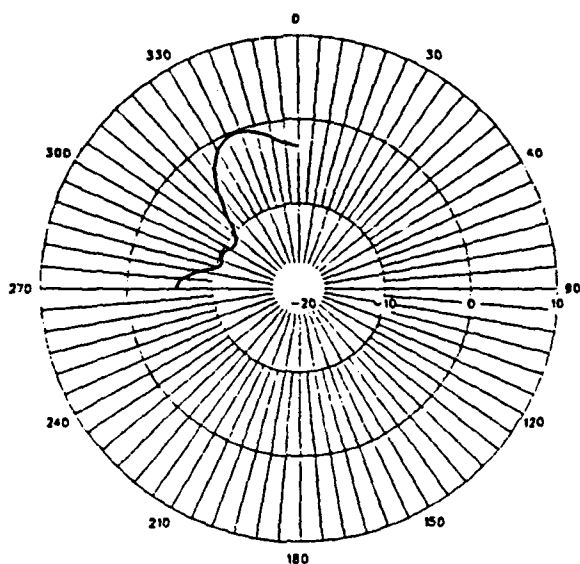
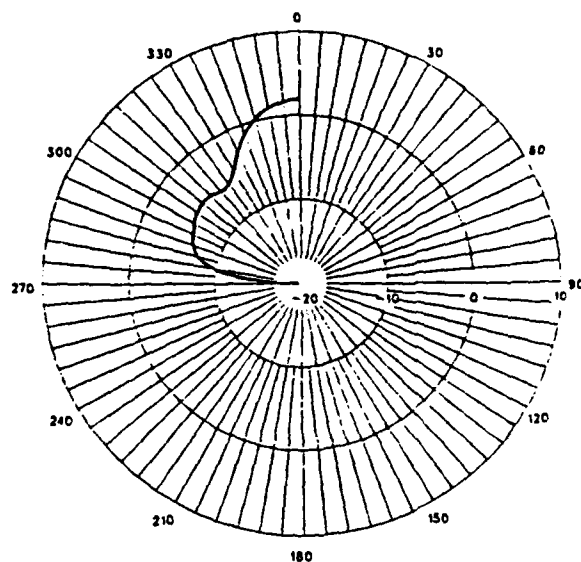


Figure 277. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 17 MHz

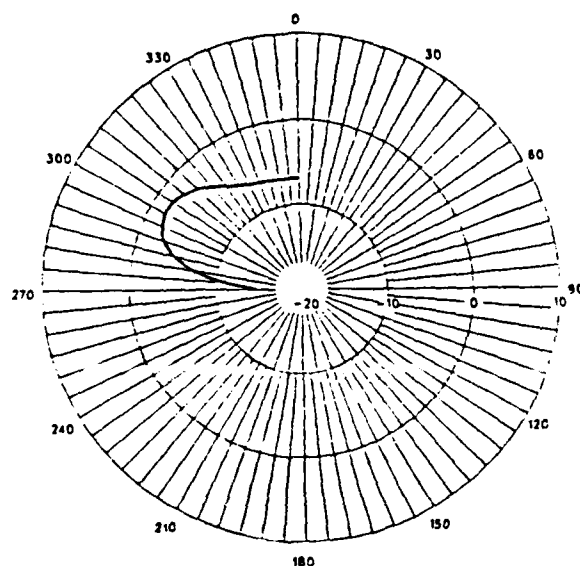
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

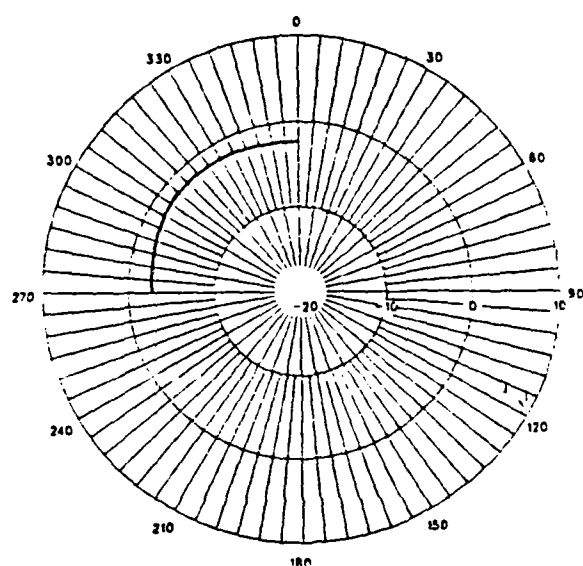
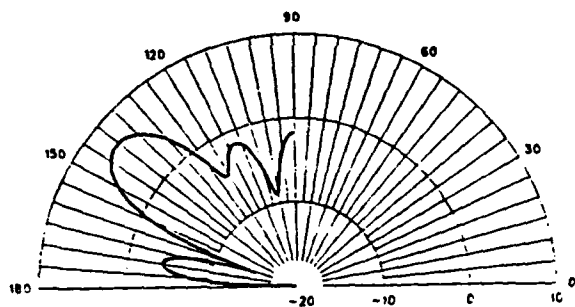
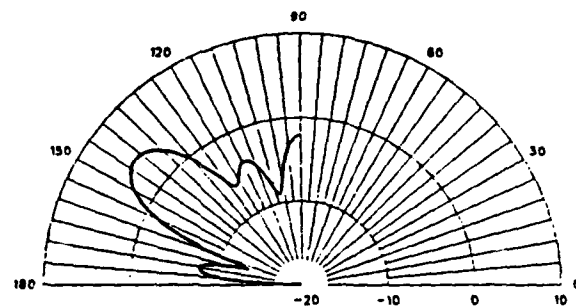


Figure 278. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 17 MHz

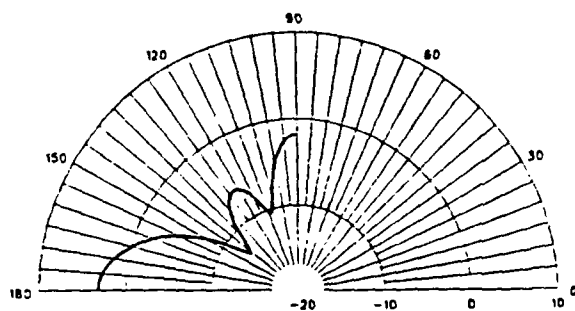
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 18 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 18 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 18 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 18 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

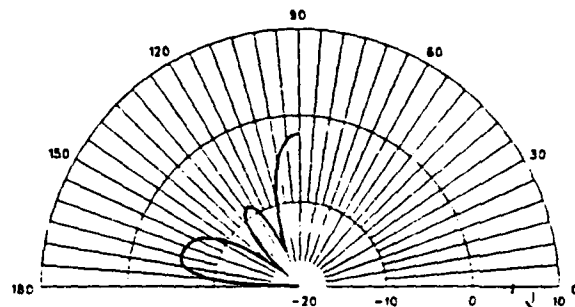
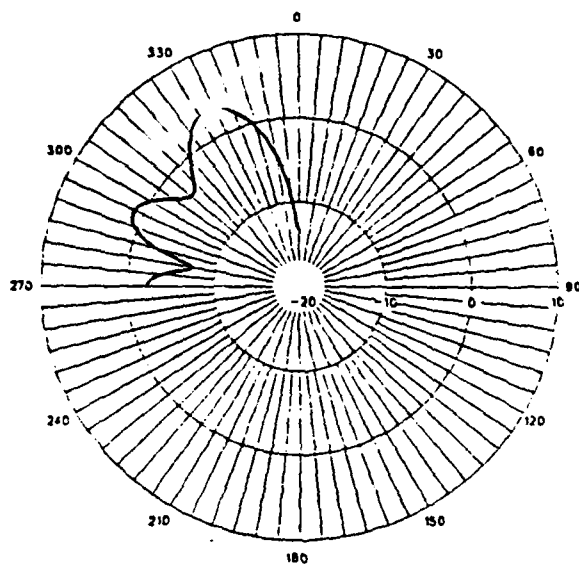
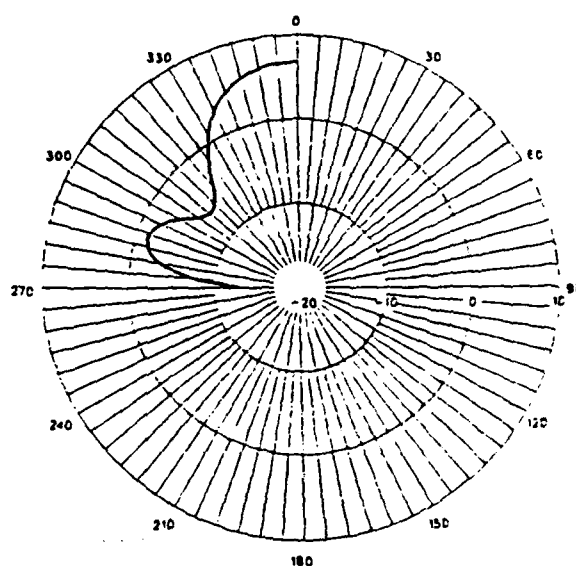


Figure 279. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 18 MHz

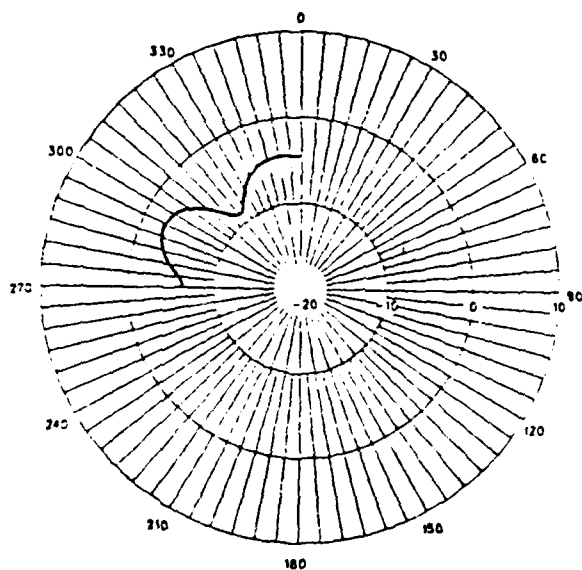
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

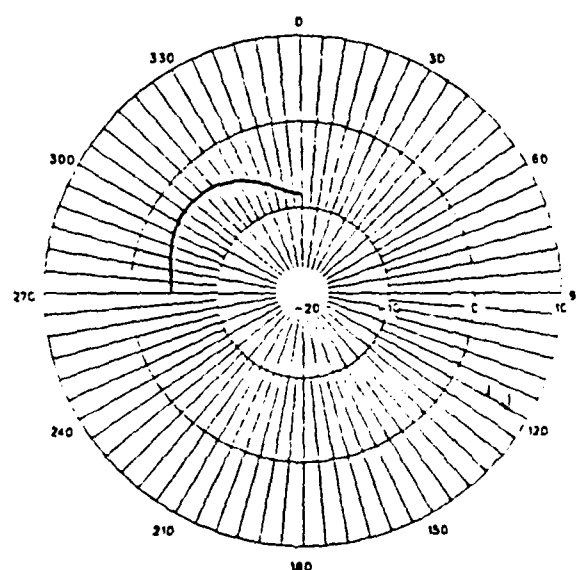
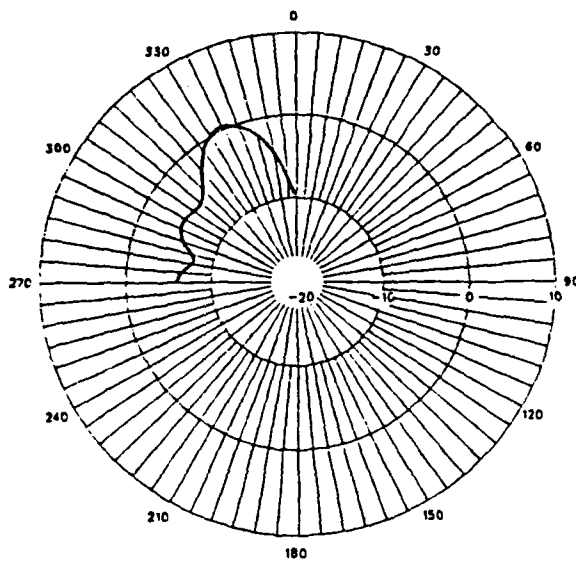
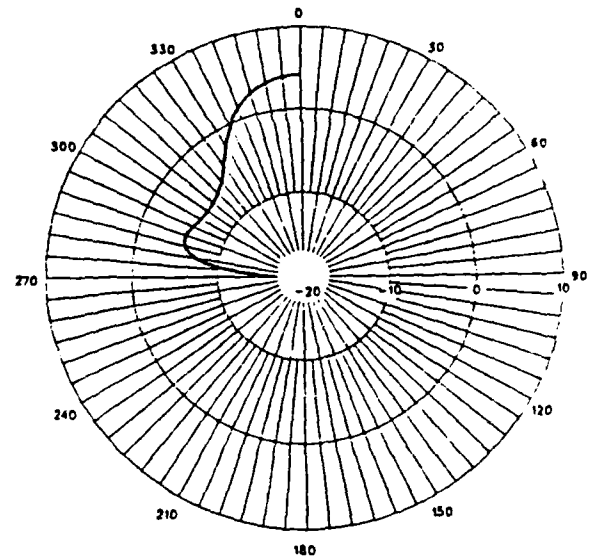


Figure 280. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 18 MHz

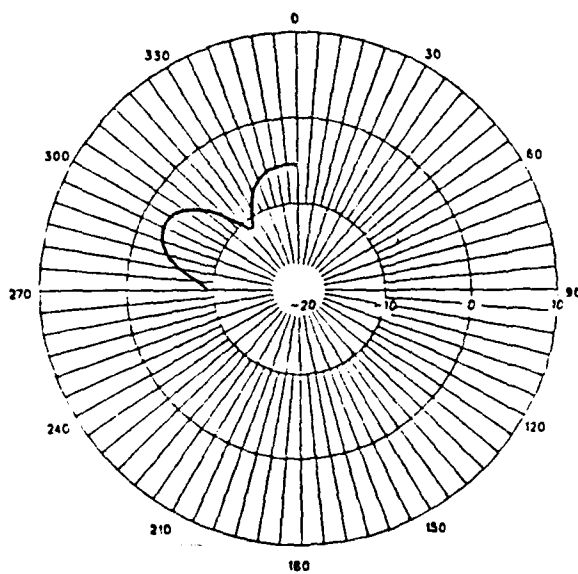
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

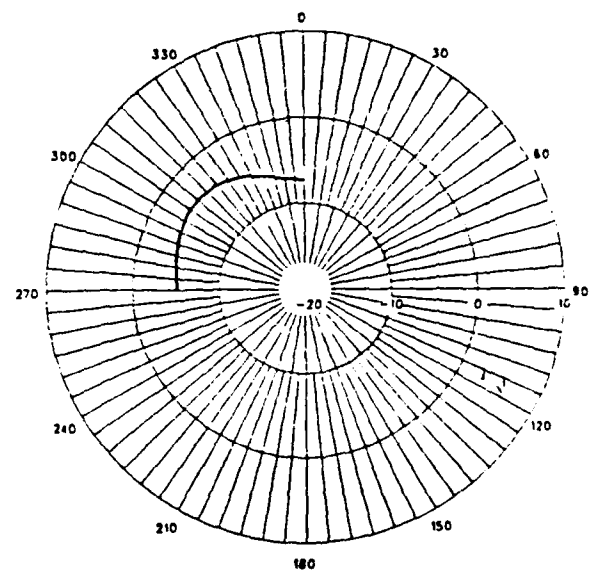
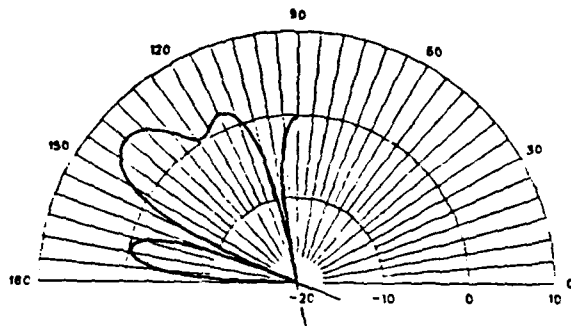
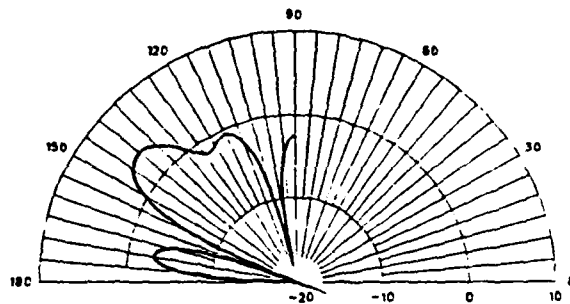


Figure 281. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 18 MHz

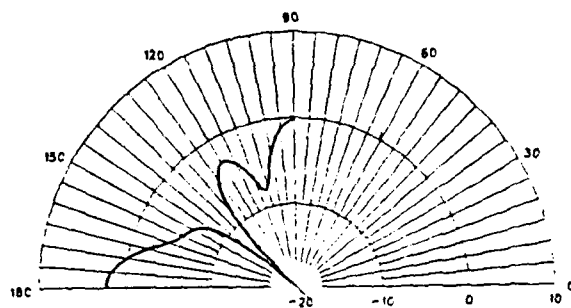
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 19 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 19 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 19 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 19 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

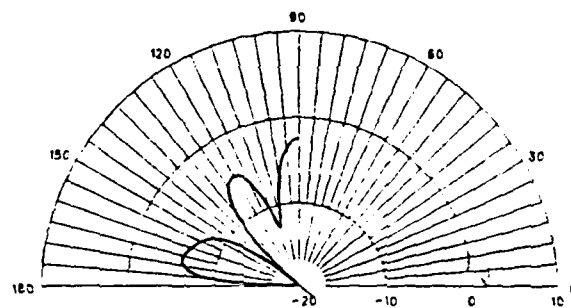
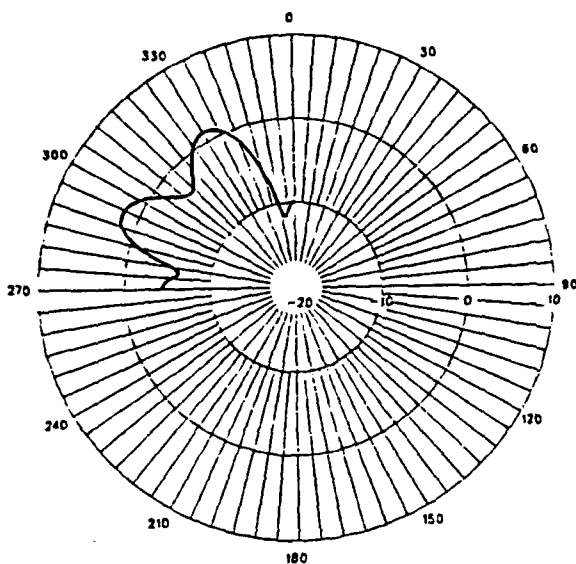
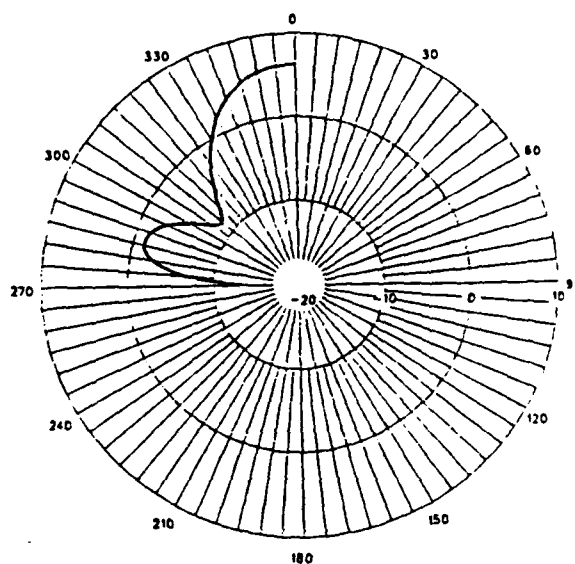


Figure 282. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 19 MHz

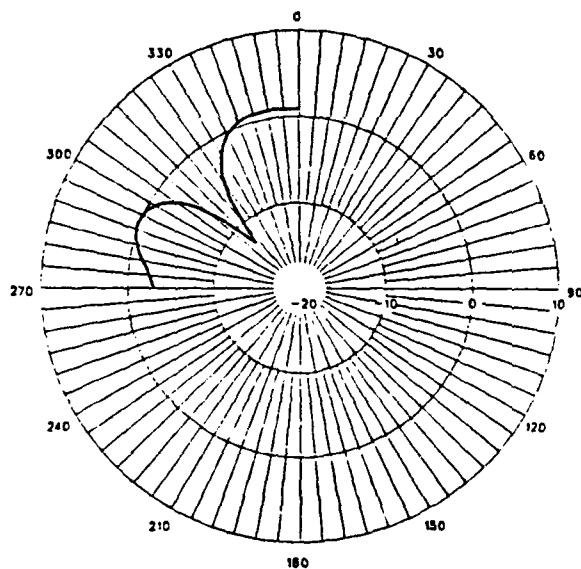
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

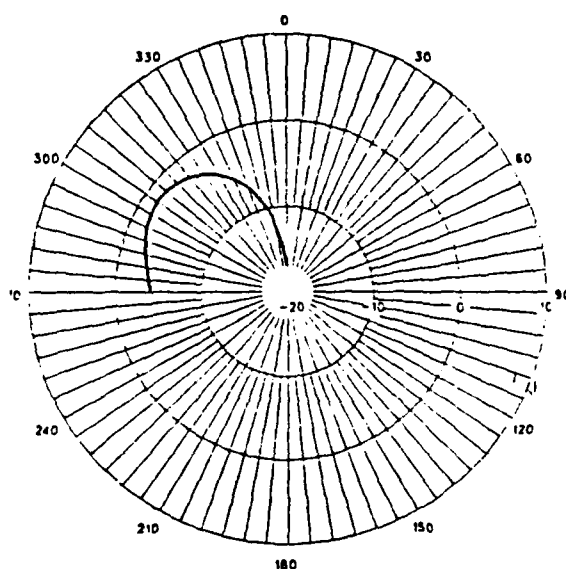
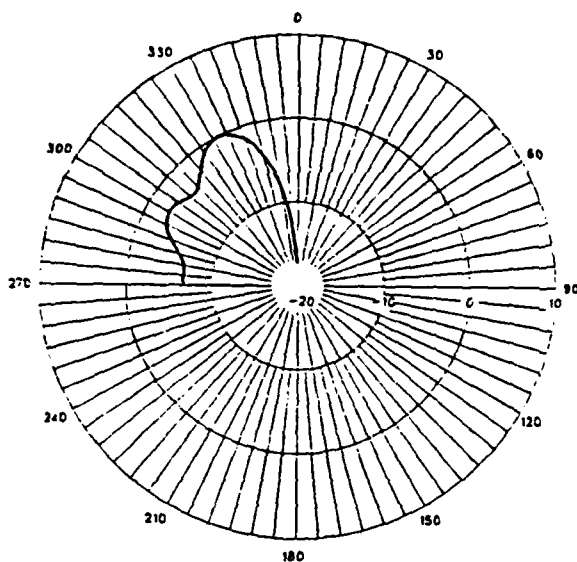
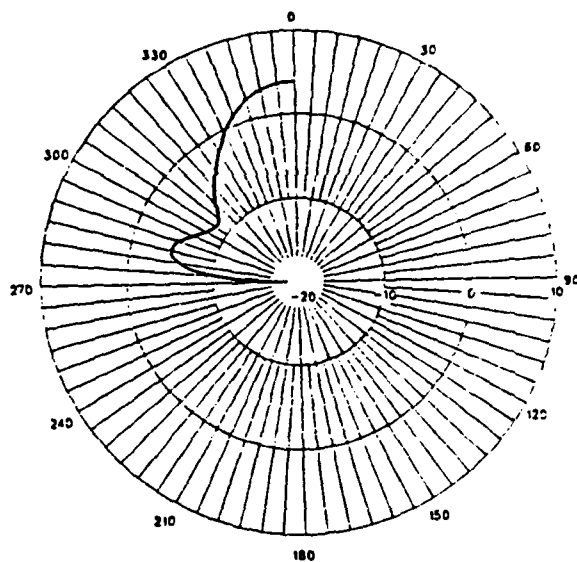


Figure 283. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 19 MHz

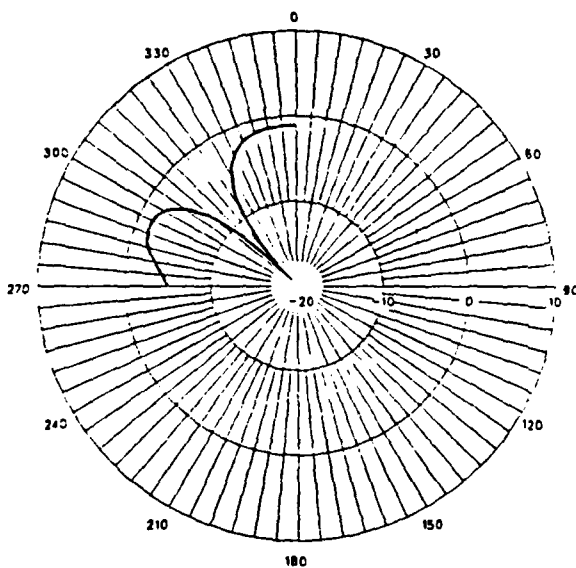
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

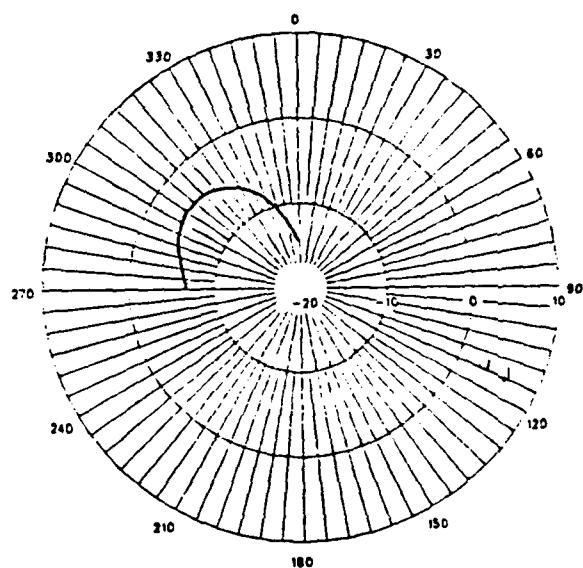
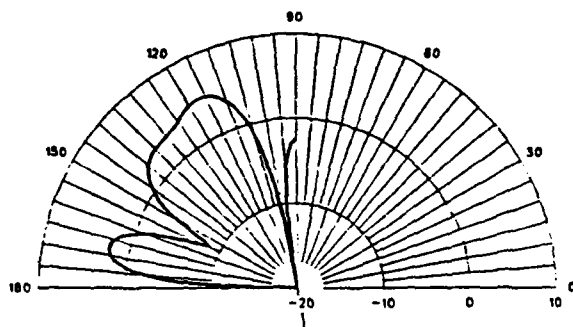
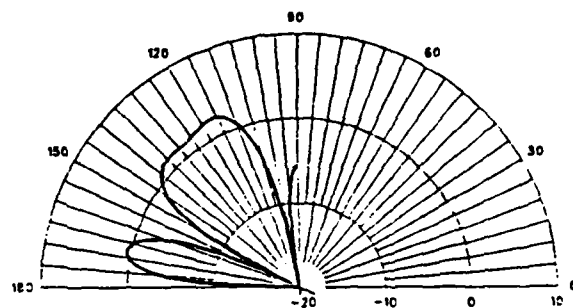


Figure 284. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 19 MHz

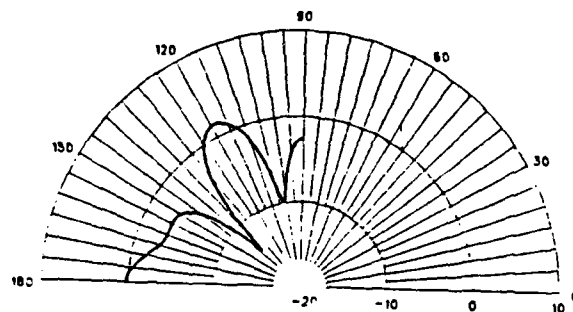
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 20 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 20 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 20 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 20 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

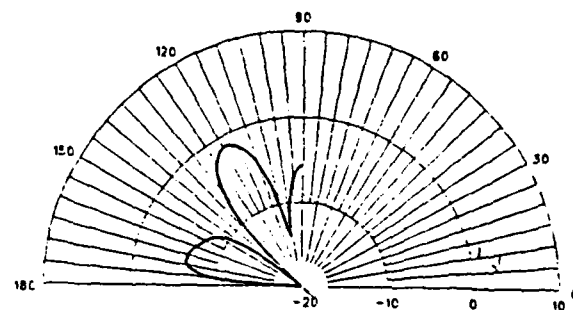
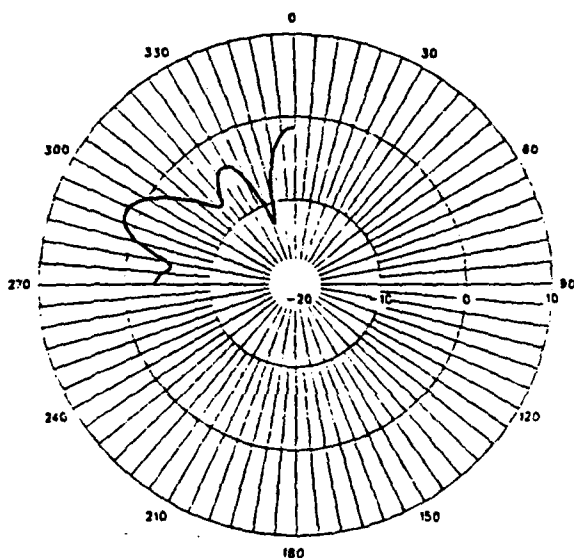
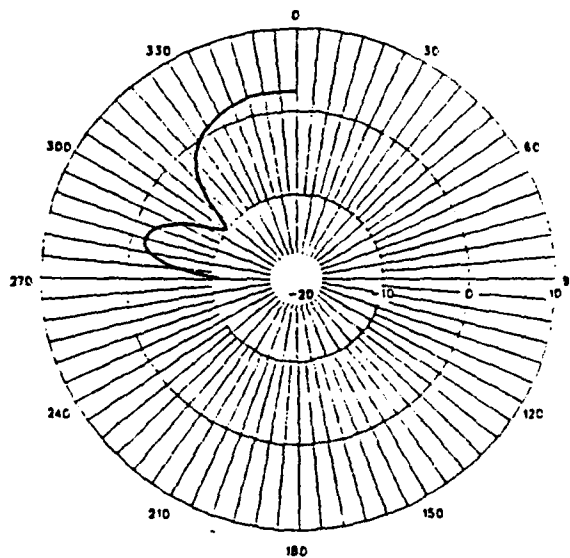


Figure 285. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 20 MHz

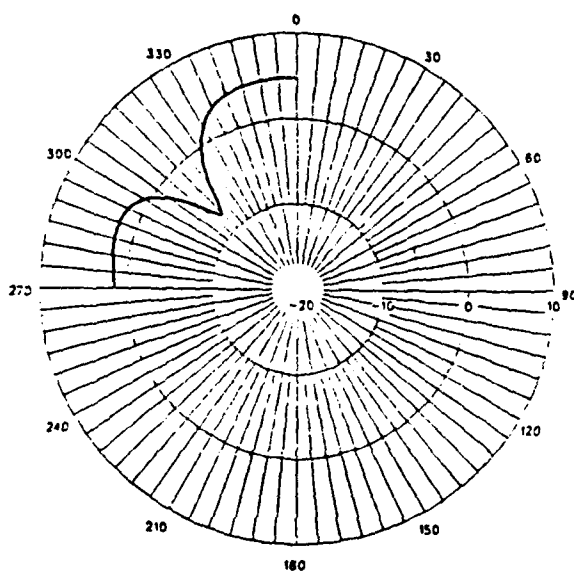
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

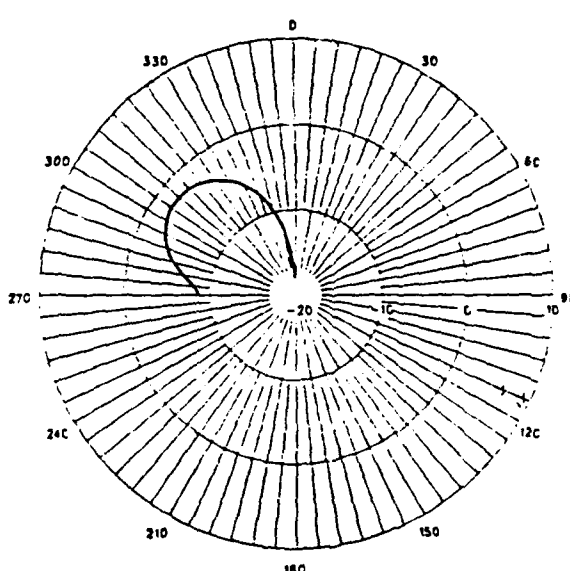
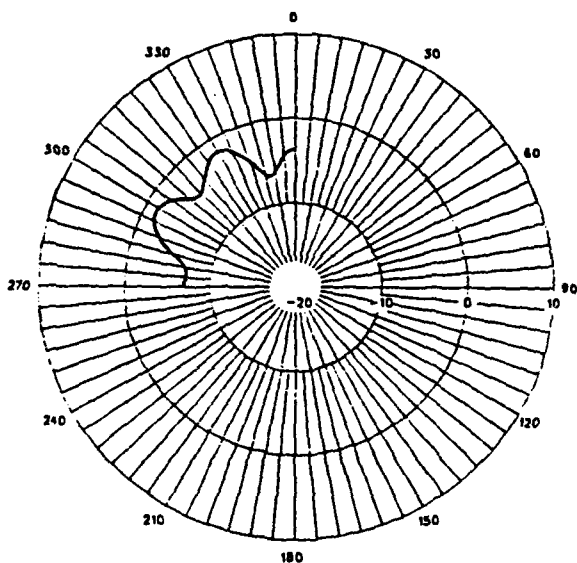
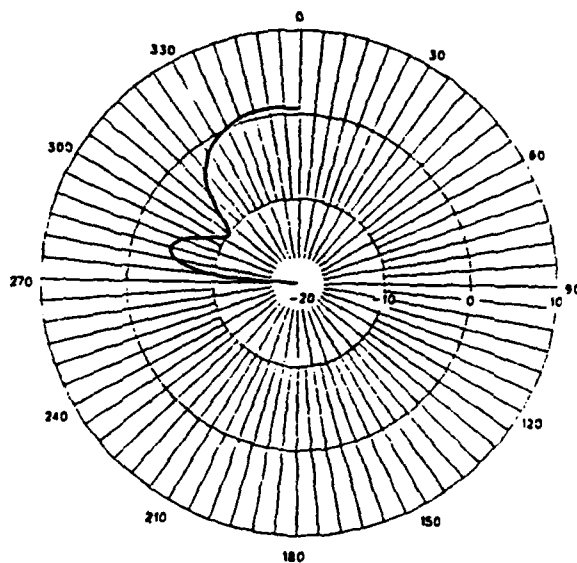


Figure 286. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 20 MHz

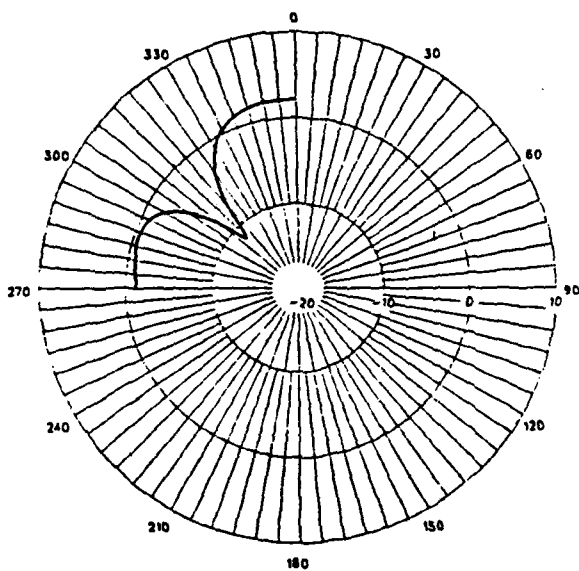
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

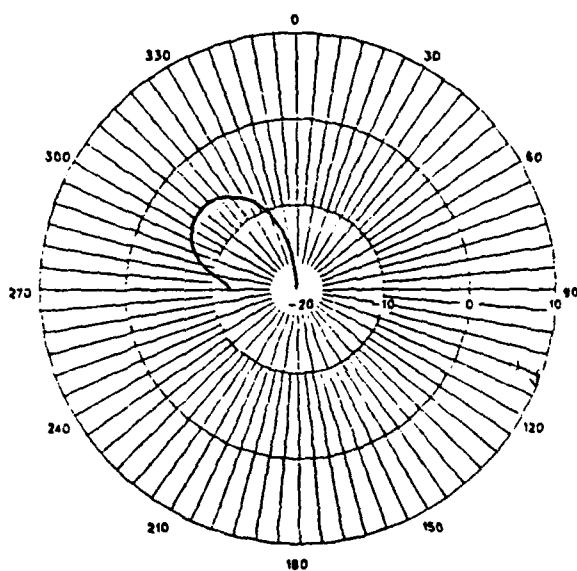
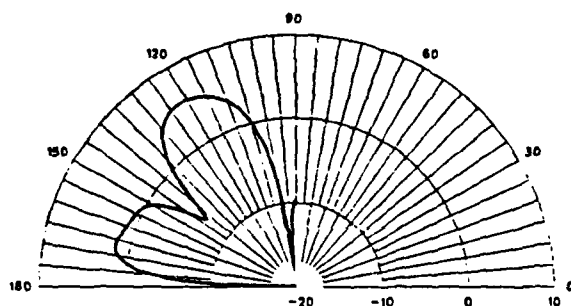
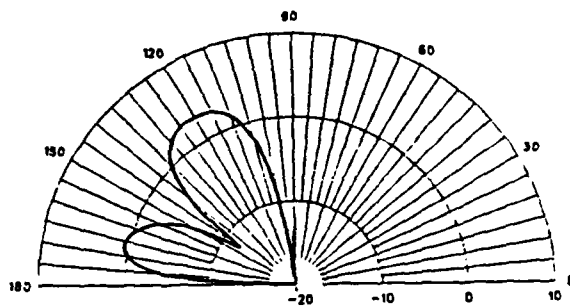


Figure 287. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 20 MHz

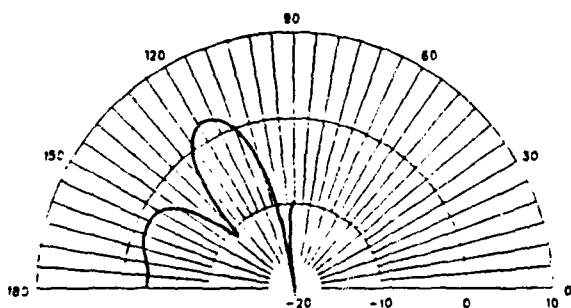
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 21 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 21 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 21 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 21 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

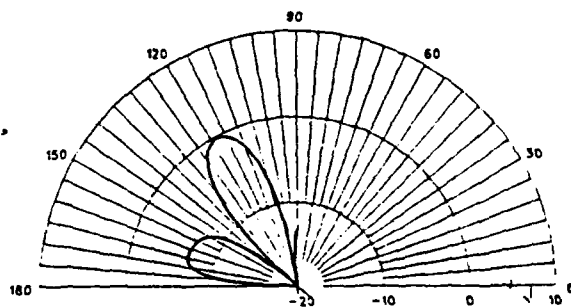
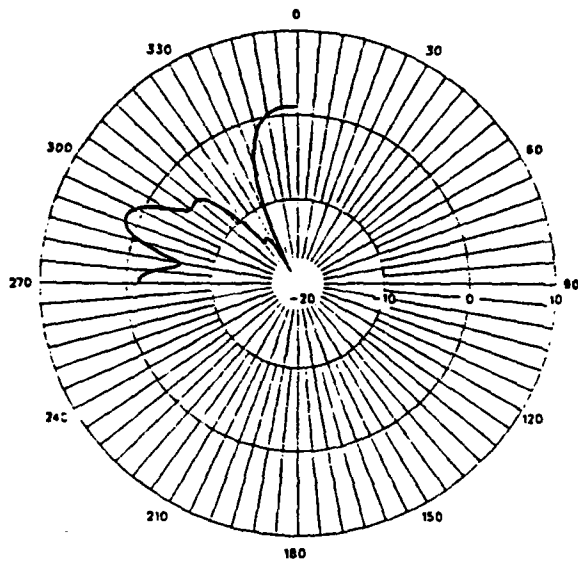
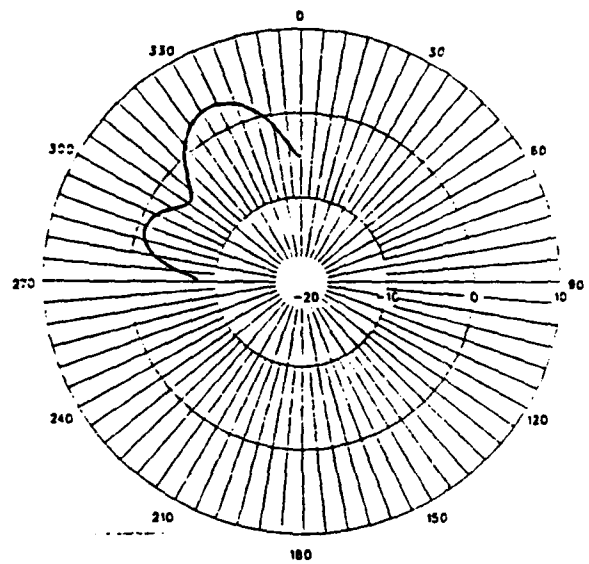


Figure 288. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 21 MHz

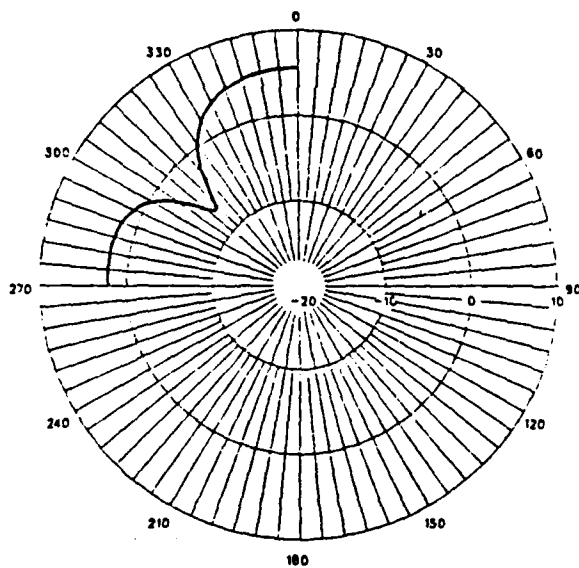
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

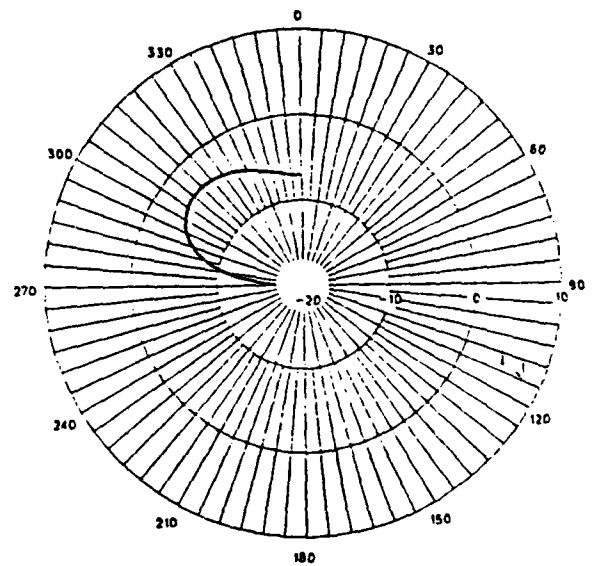
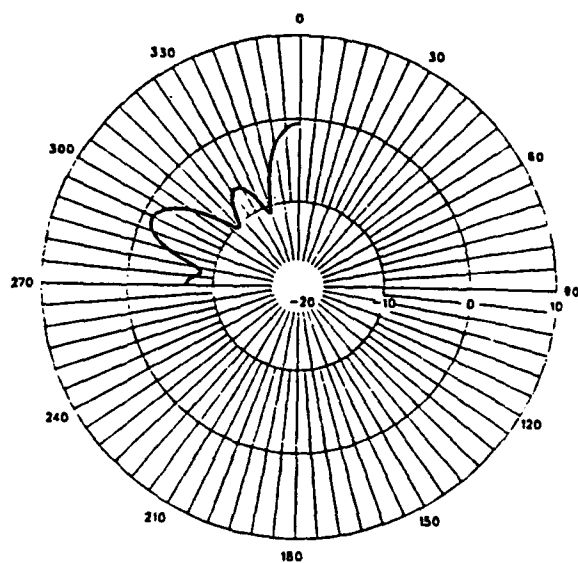
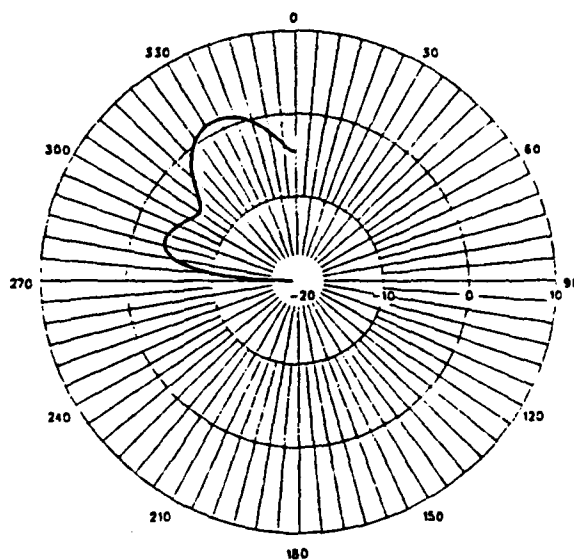


Figure 289. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 21 MHz

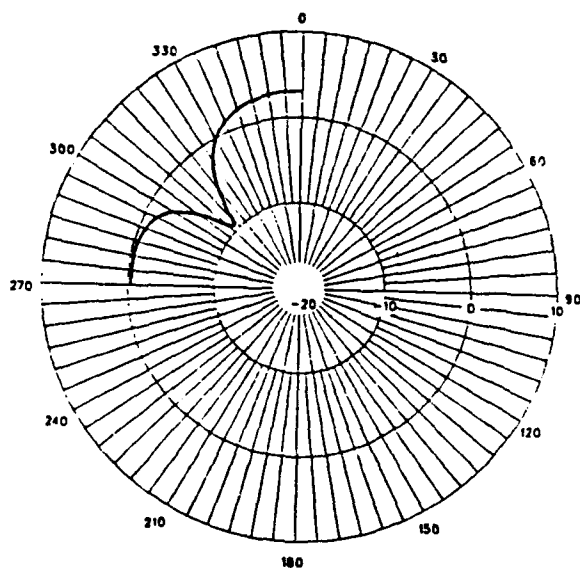
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

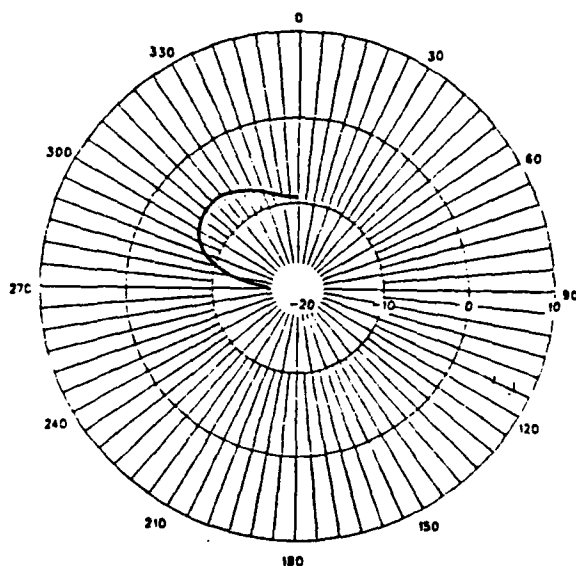
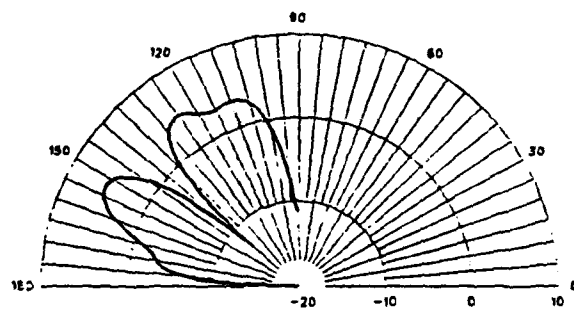
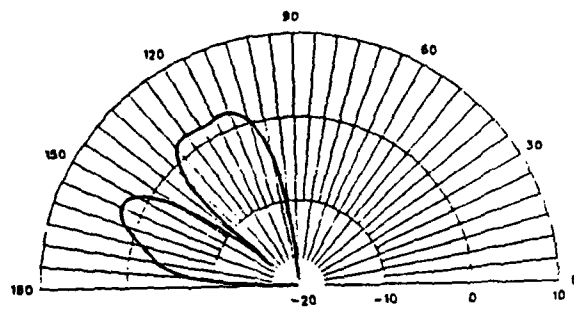


Figure 290. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 21 MHz

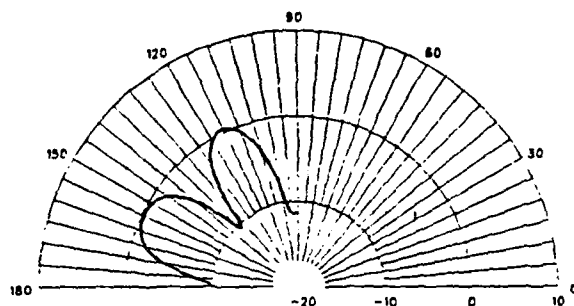
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 22 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 22 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 22 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 22 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

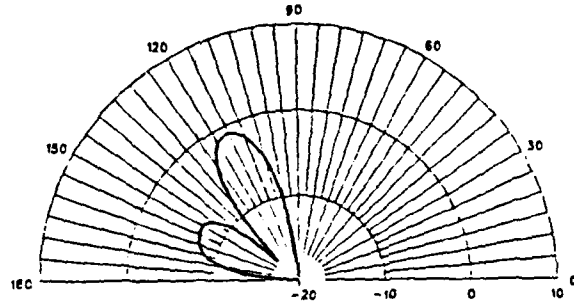
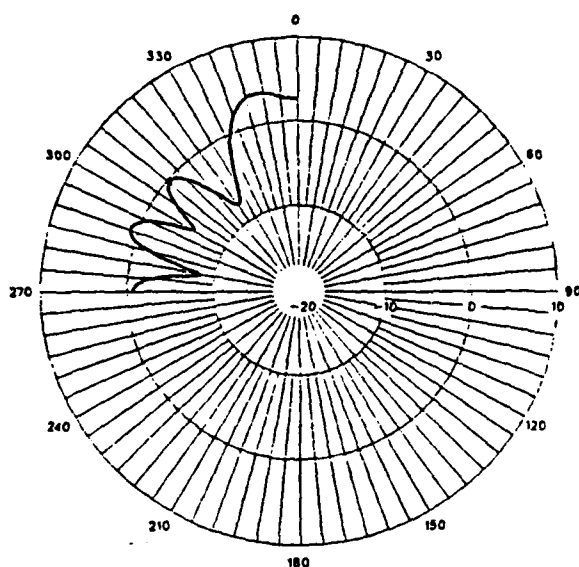
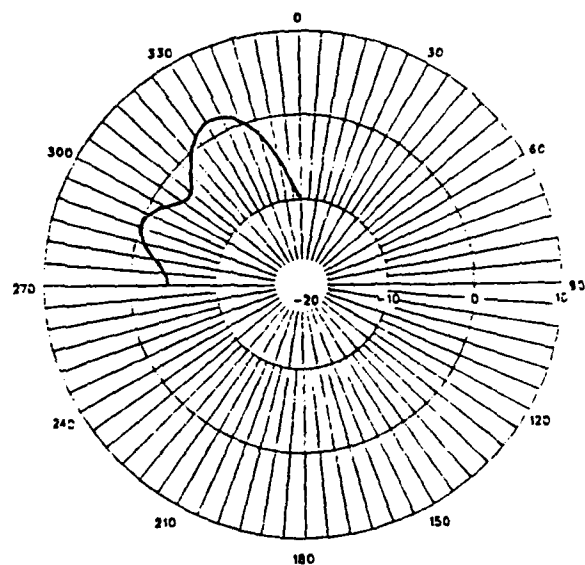


Figure 291. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 22 MHz

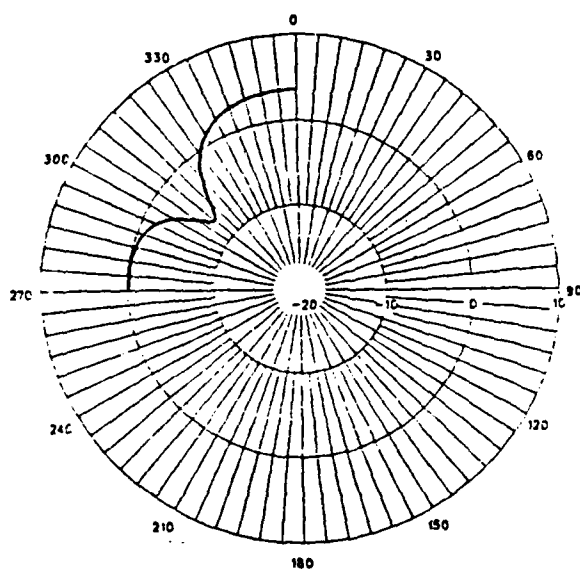
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

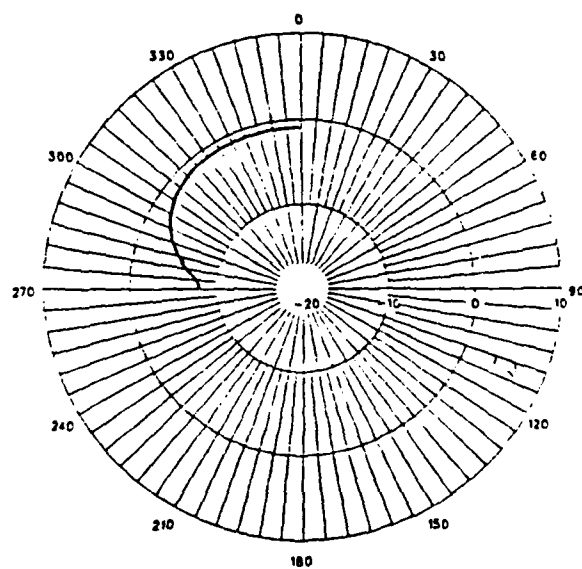
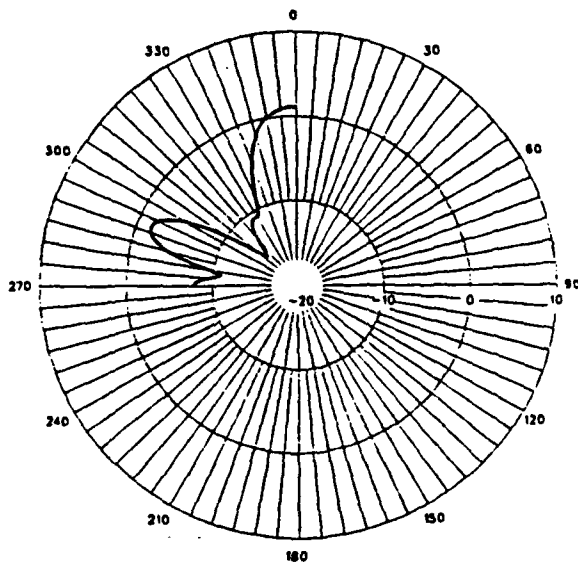
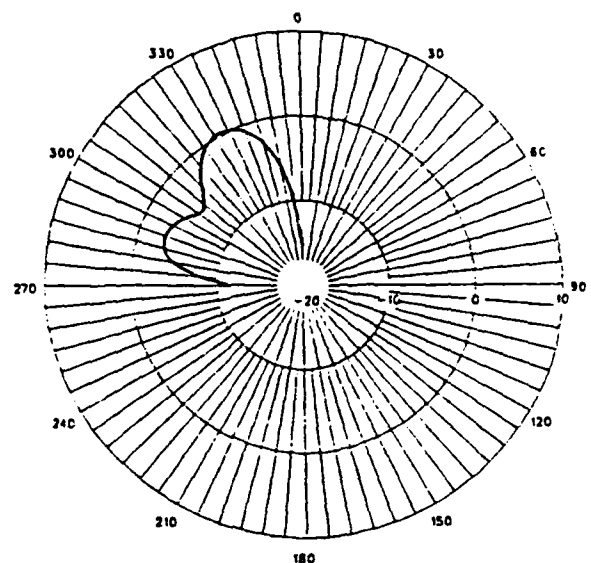


Figure 292. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 22 MHz

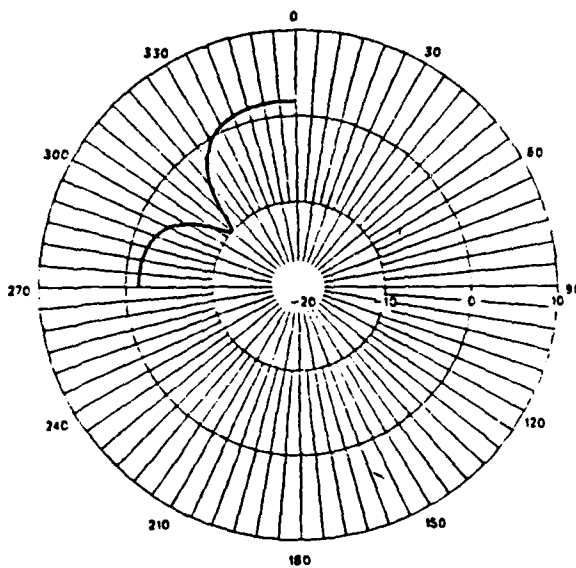
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

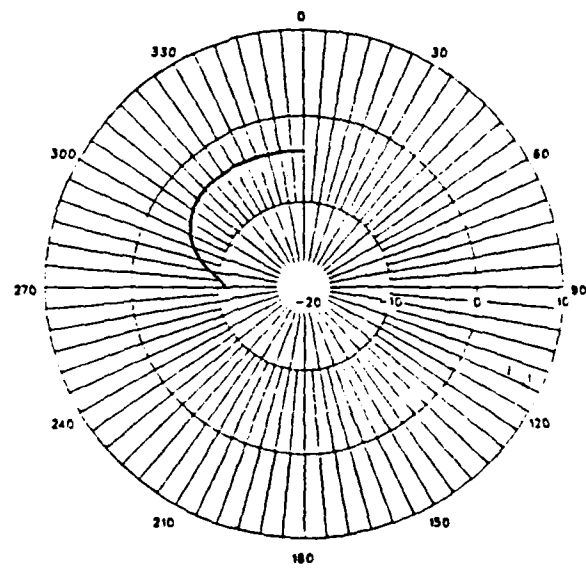
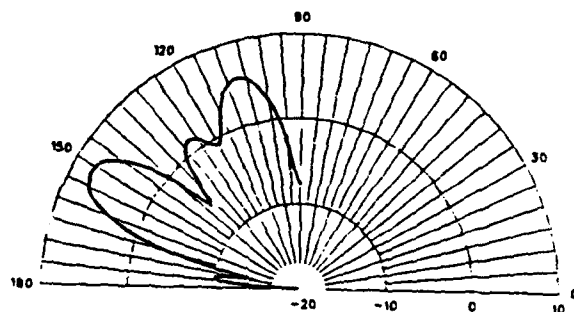
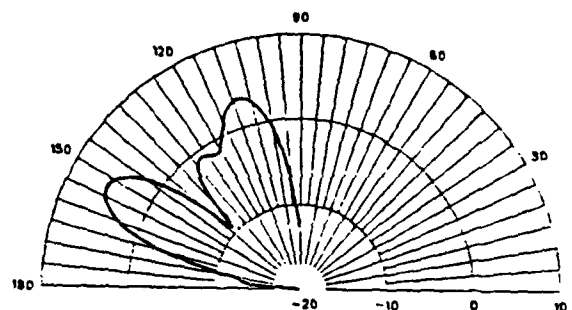


Figure 293. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 22 MHz

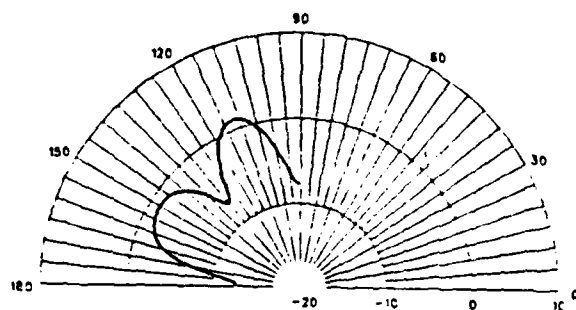
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 23 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 23 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 23 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 23 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

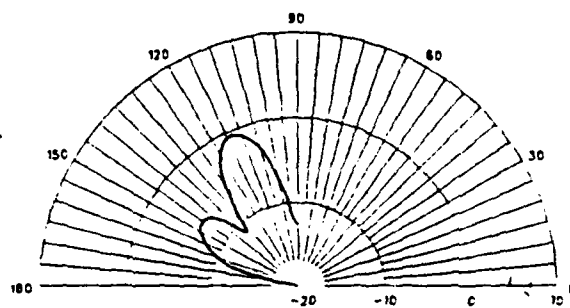
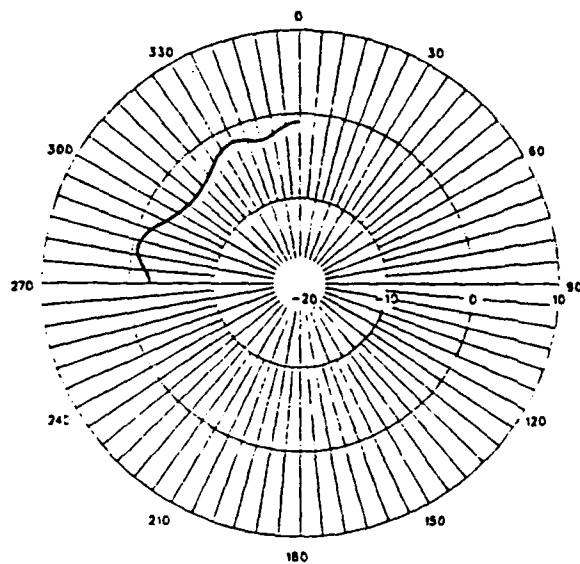
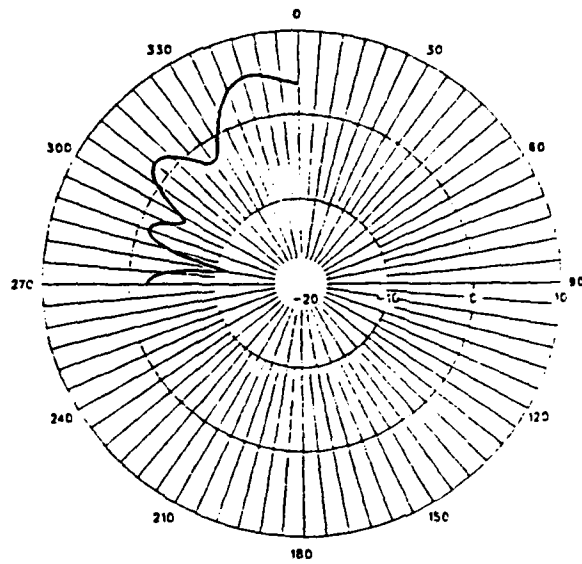


Figure 294. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 23 MHz

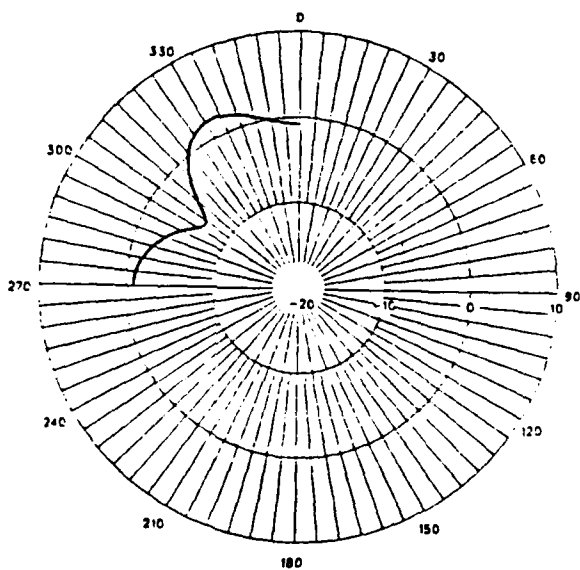
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

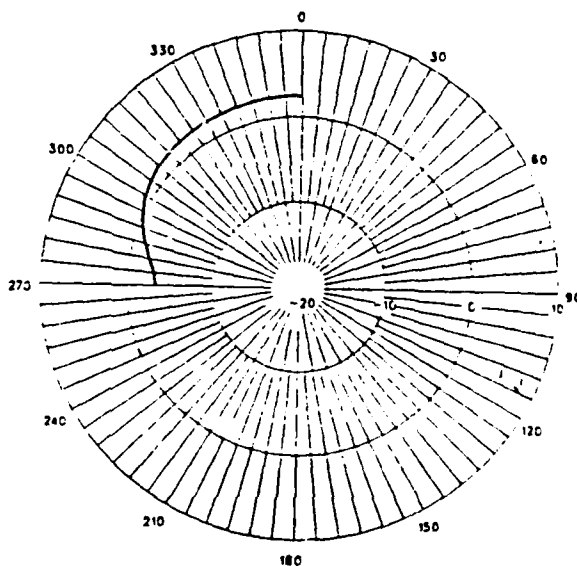
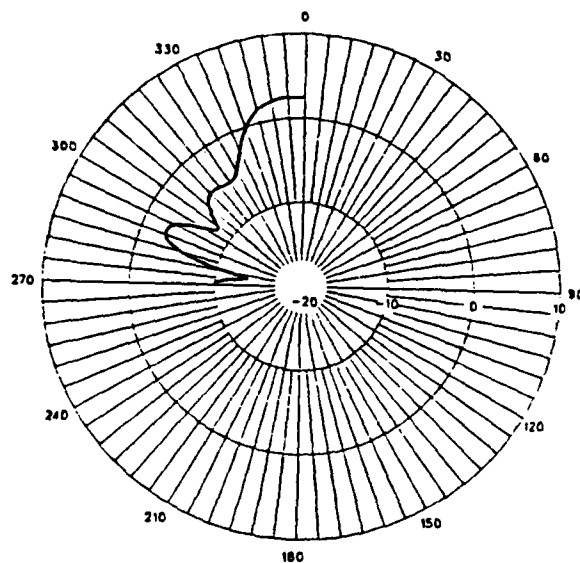
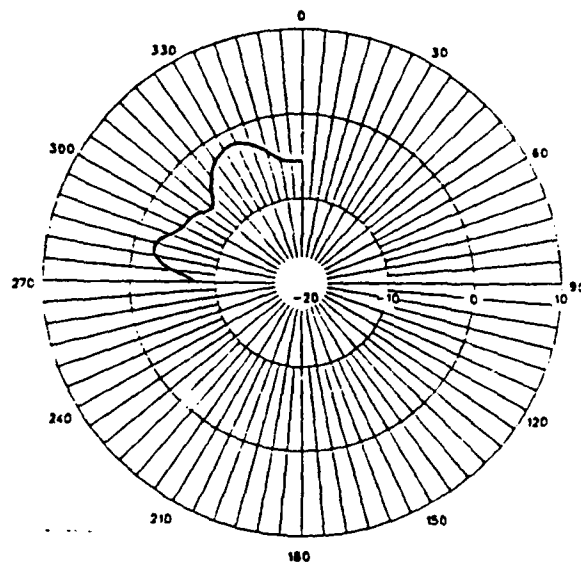


Figure 295. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 23 MHz

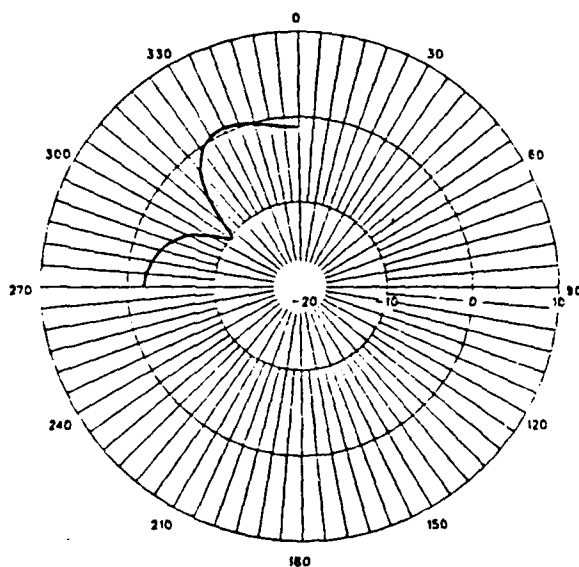
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

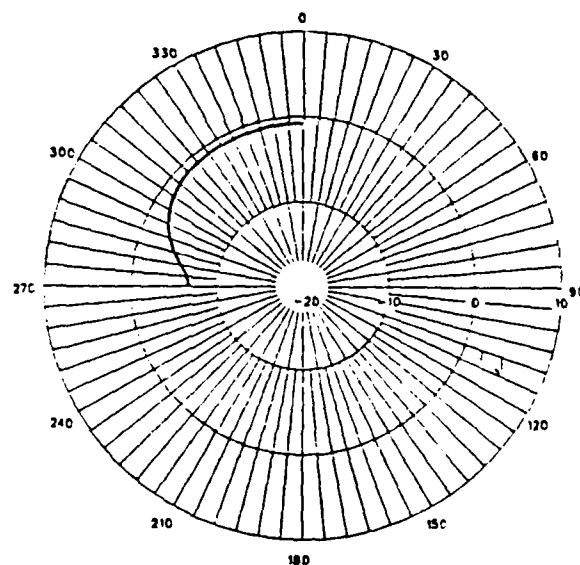
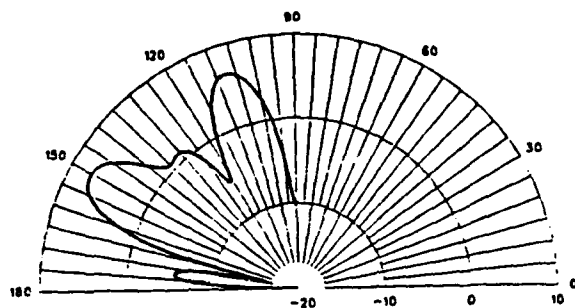
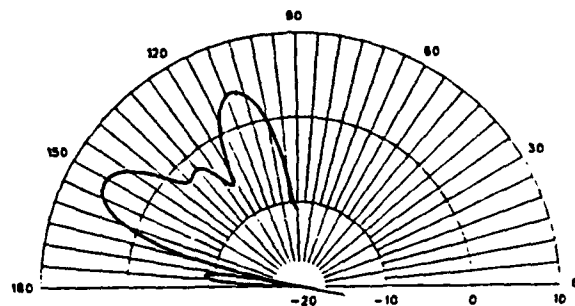


Figure 296. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 23 MHz

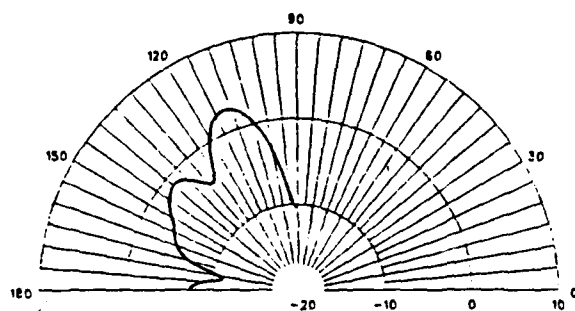
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 24 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 24 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 24 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 24 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

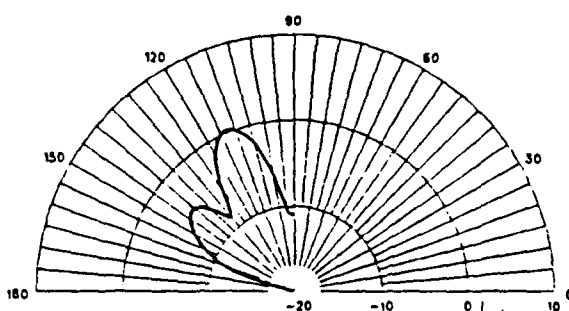
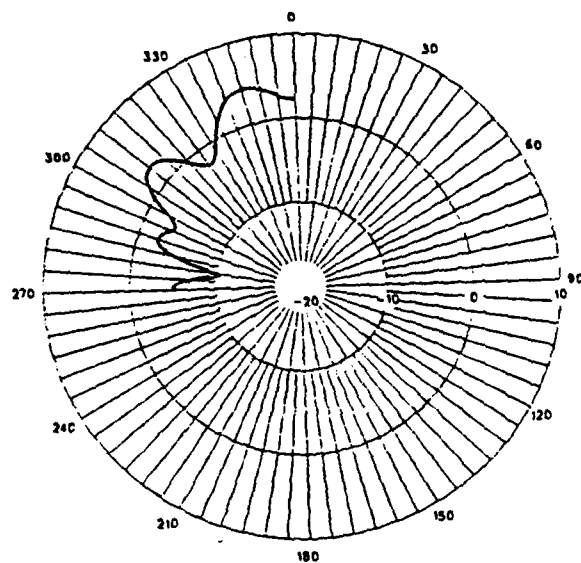
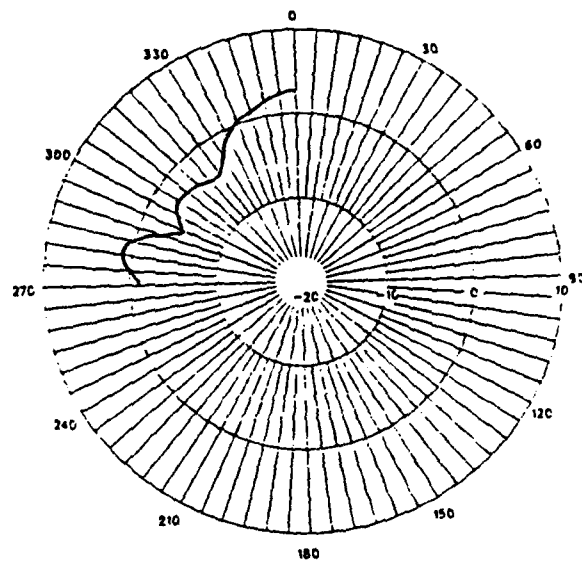


Figure 297. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 24 MHz

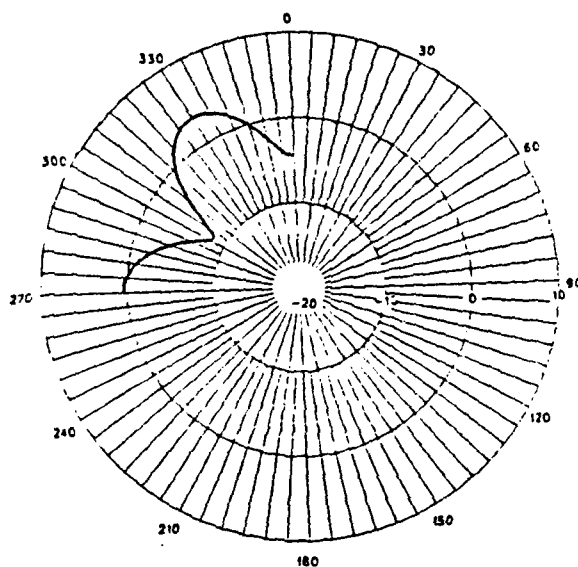
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

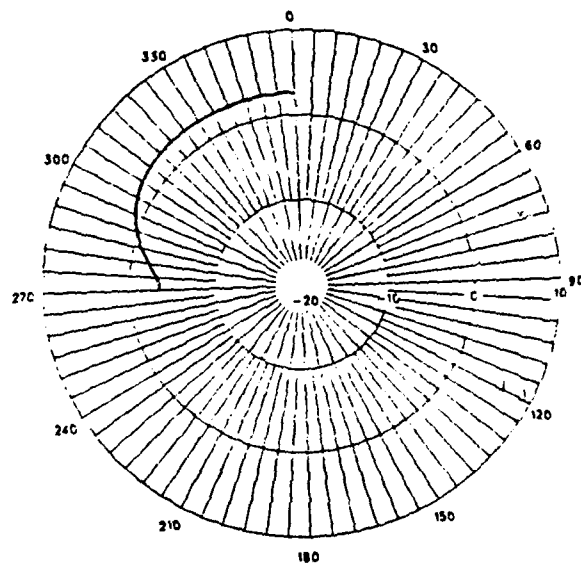
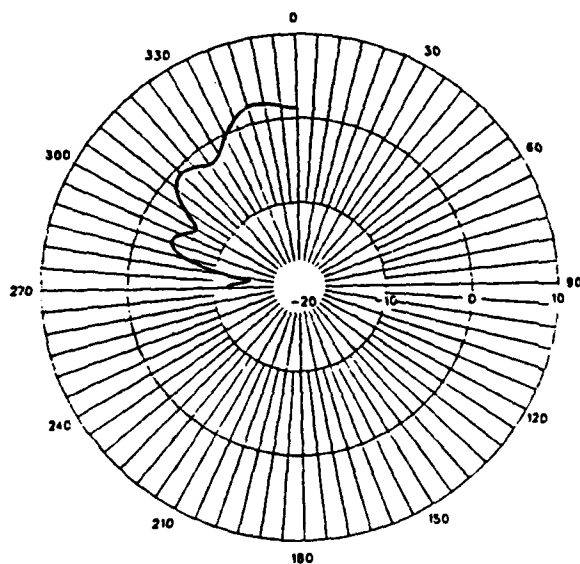
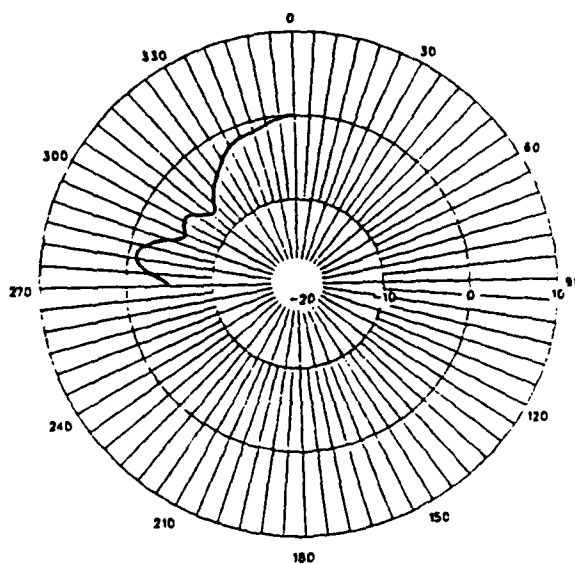


Figure 298. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 24 MHz

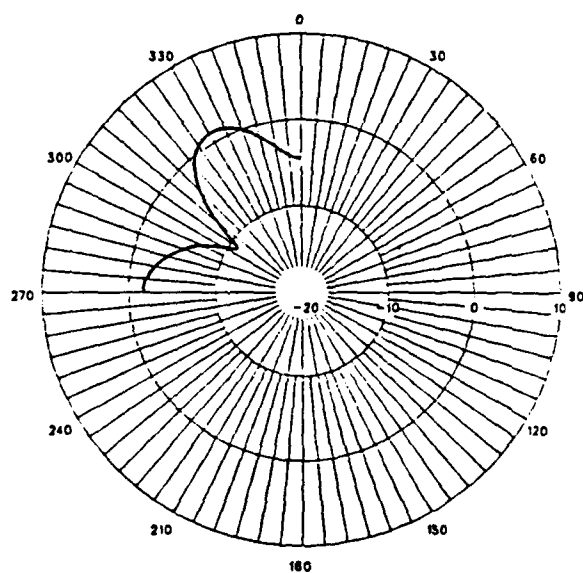
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

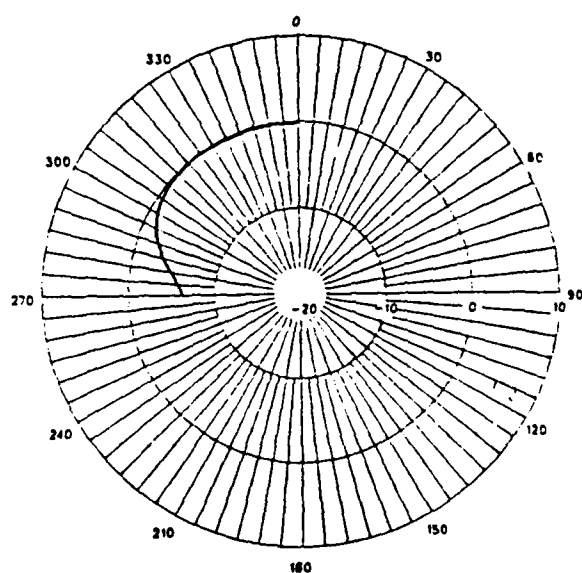


Figure 299. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 24 MHz

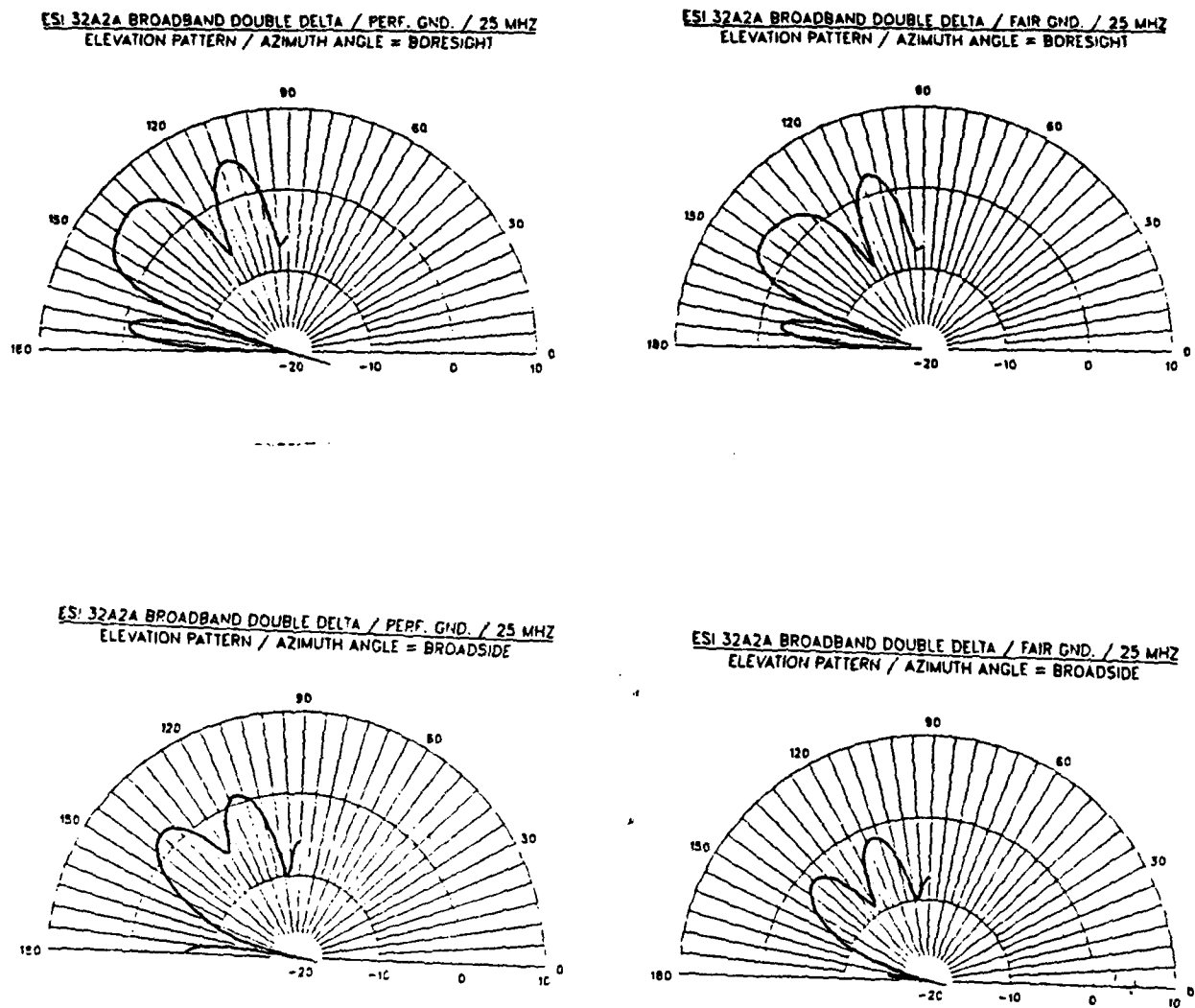
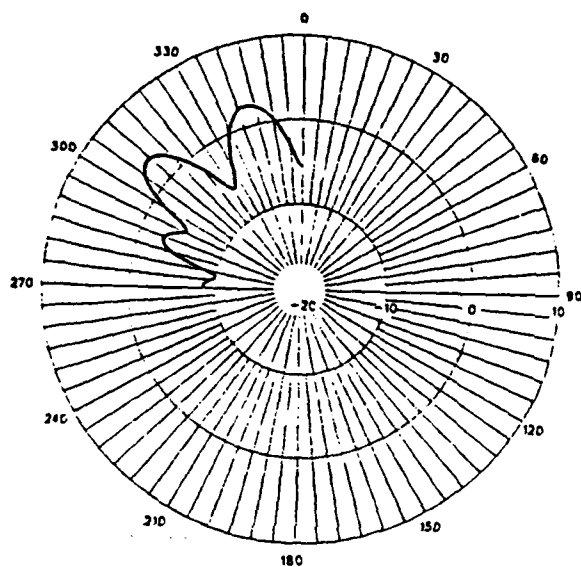
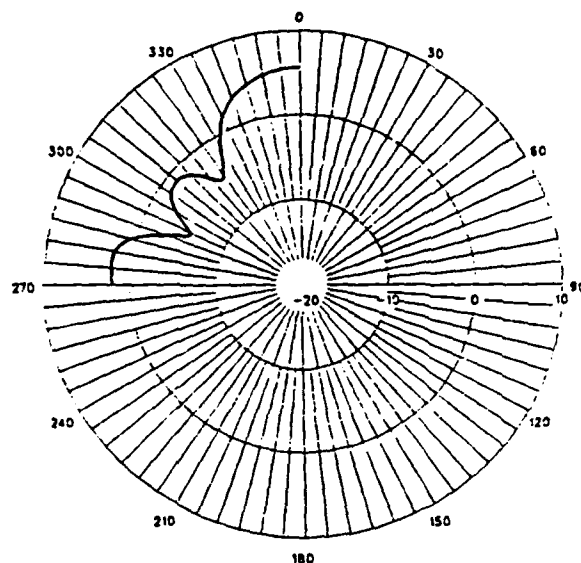


Figure 300. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 25 MHz

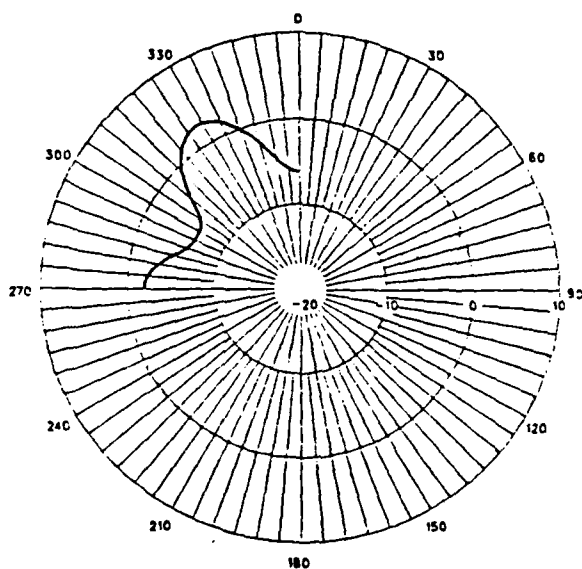
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

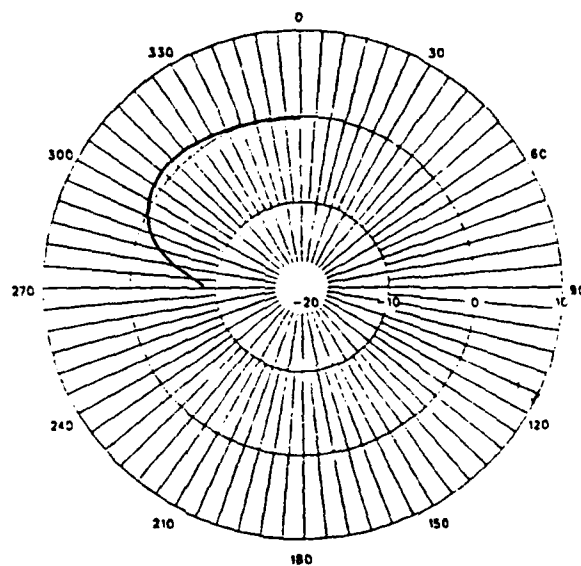
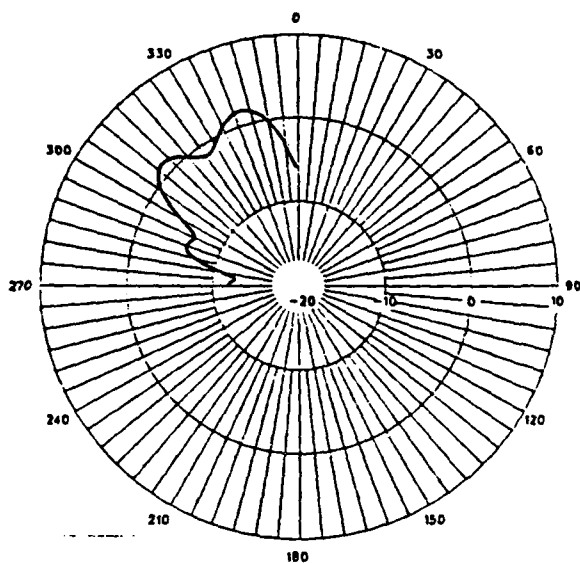
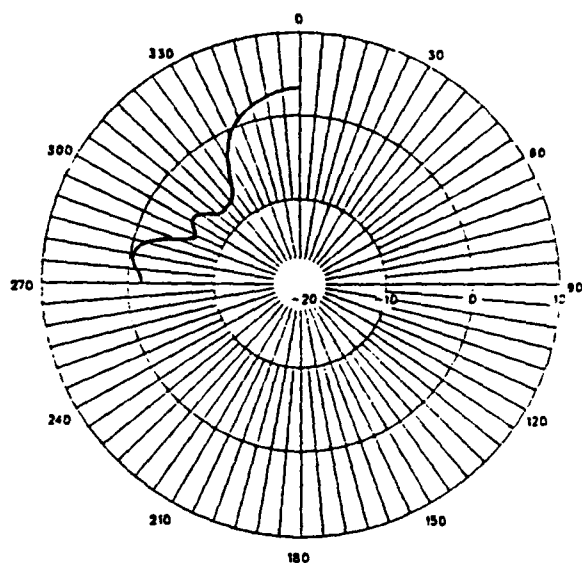


Figure 301. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 25 MHz

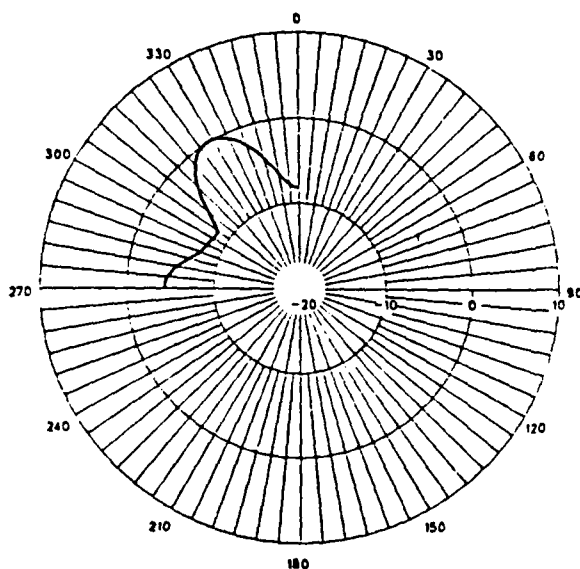
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

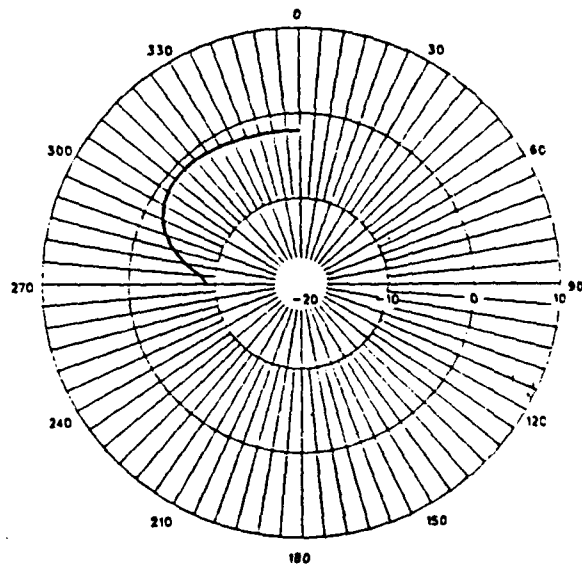
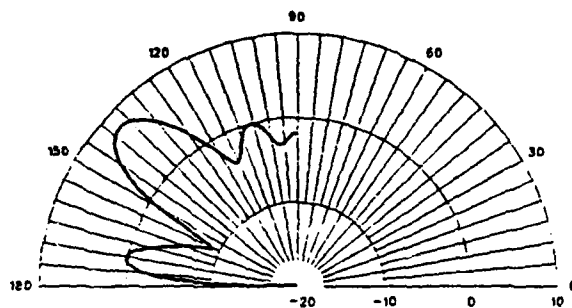
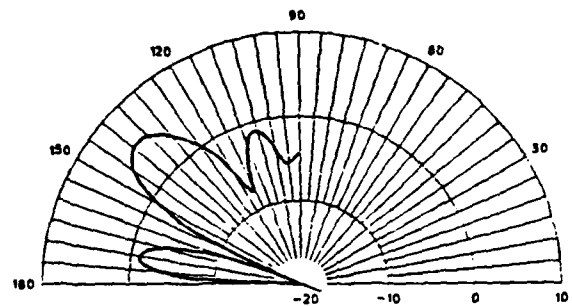


Figure 302. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 25 MHz

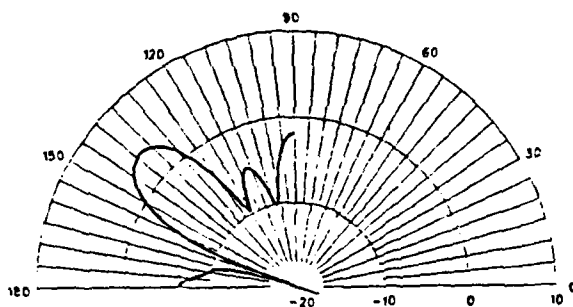
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 26 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 26 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 26 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 26 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

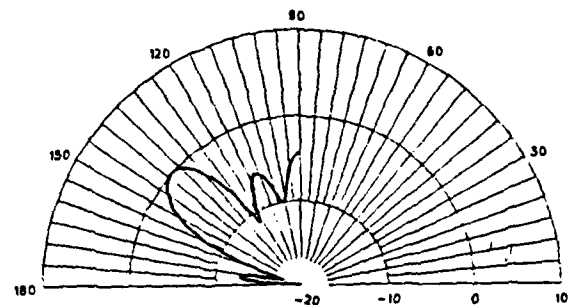
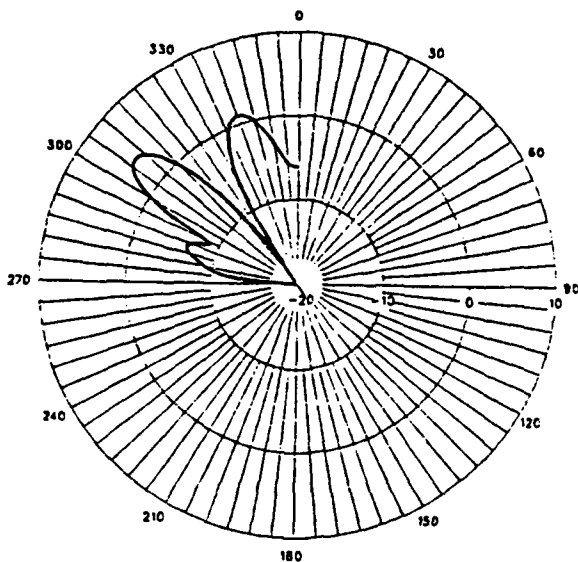
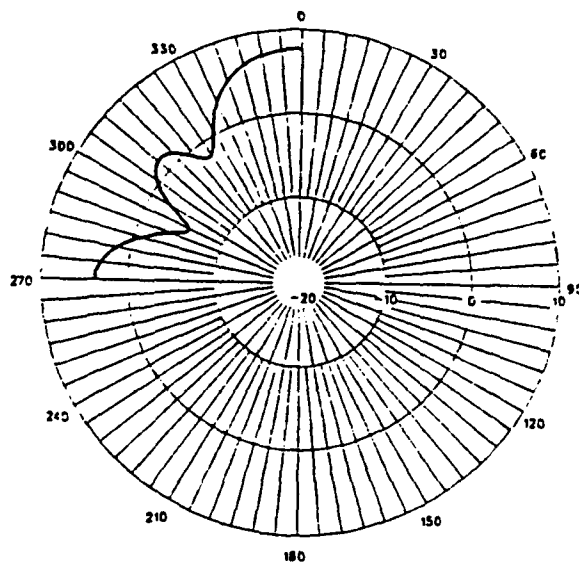


Figure 303. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 26 MHz

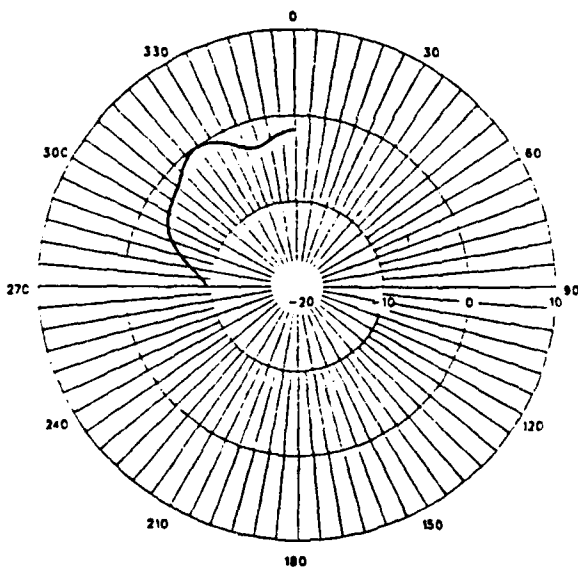
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

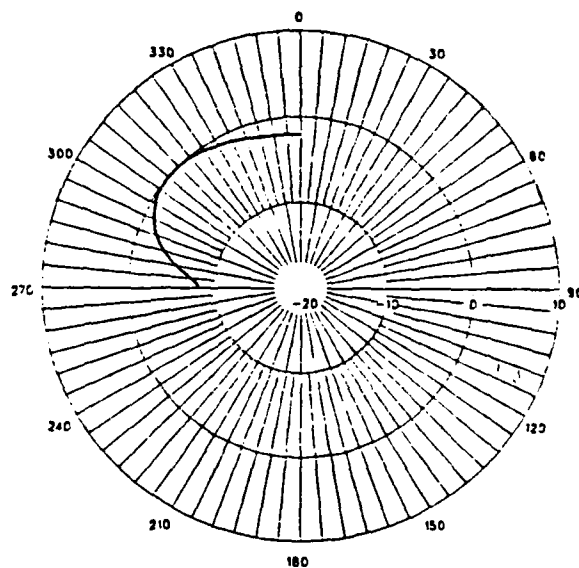
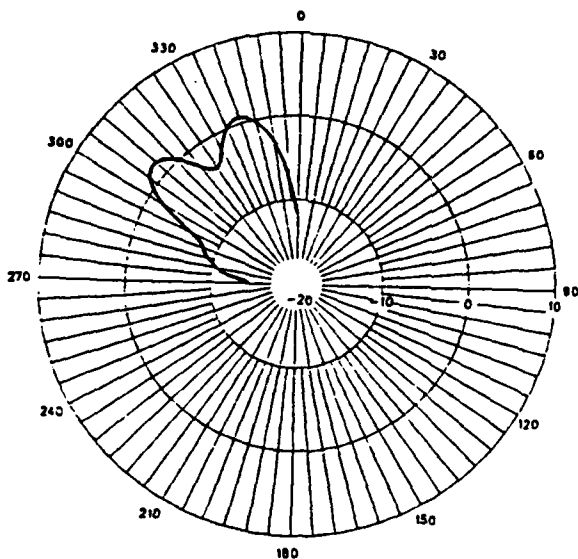
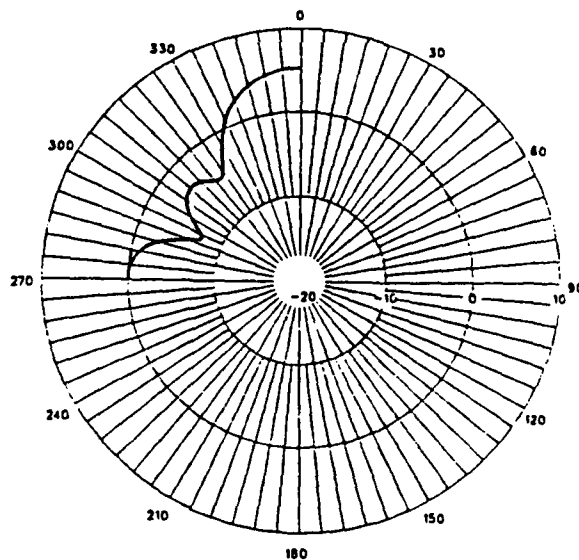


Figure 304. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 26 MHz

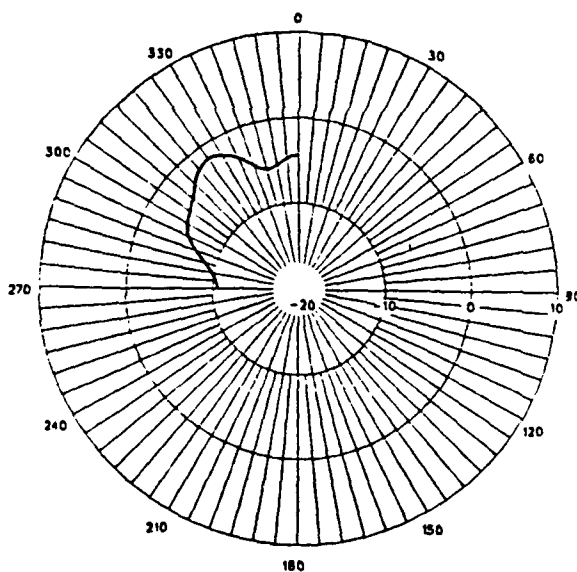
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

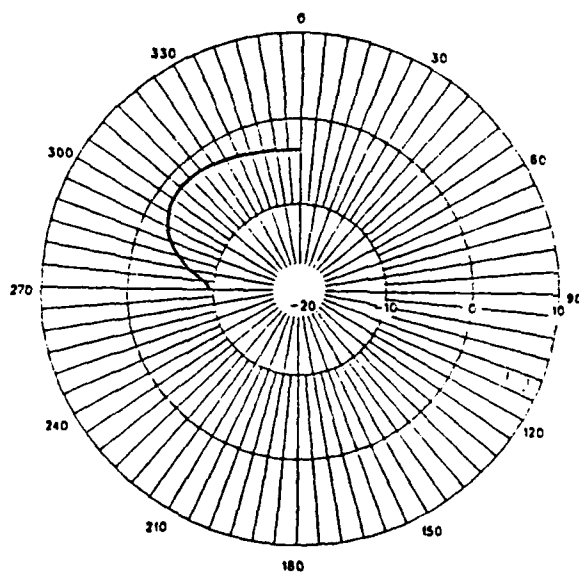
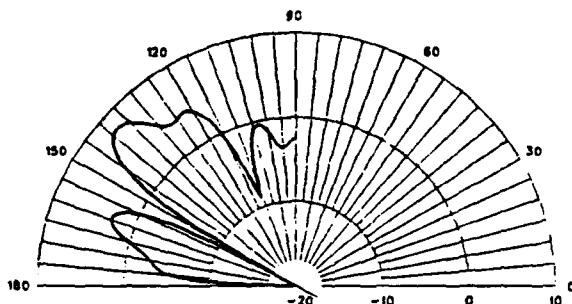
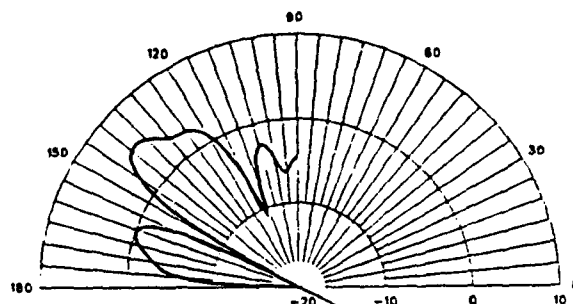


Figure 305. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 26 MHz

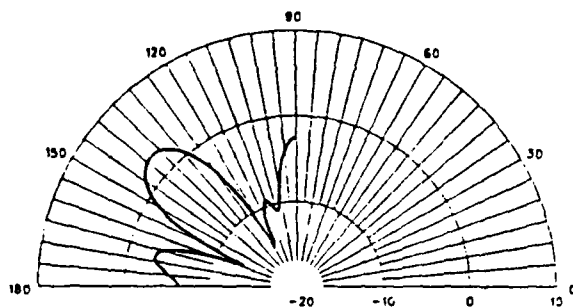
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 27 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 27 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 27 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 27 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

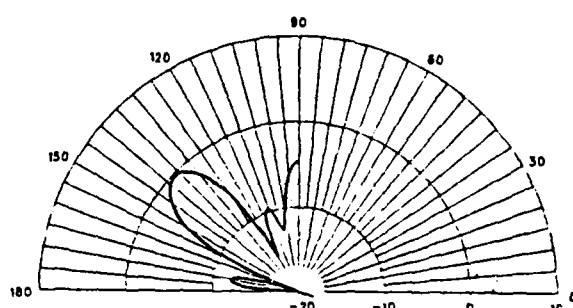
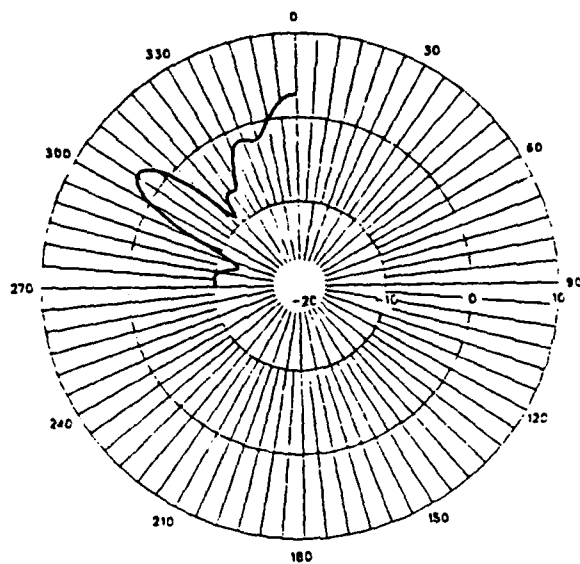
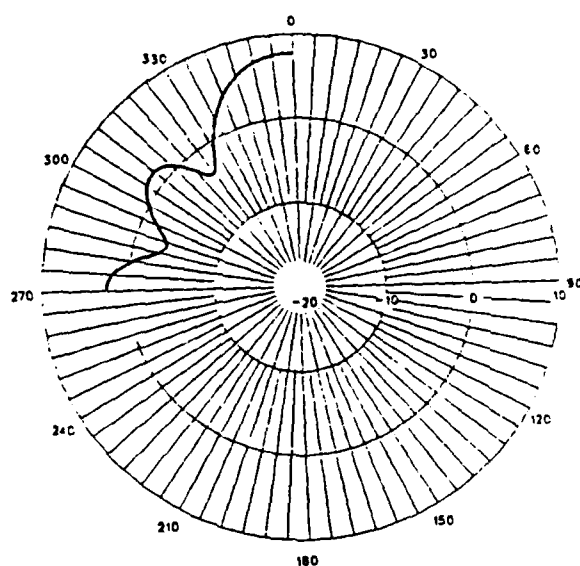


Figure 306. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 27 MHz

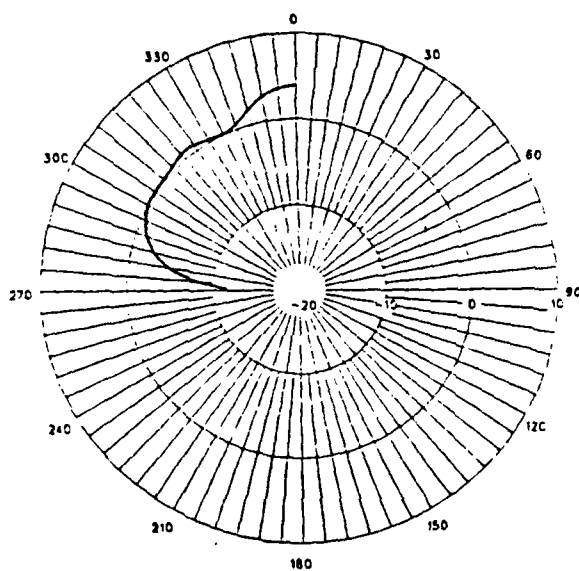
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

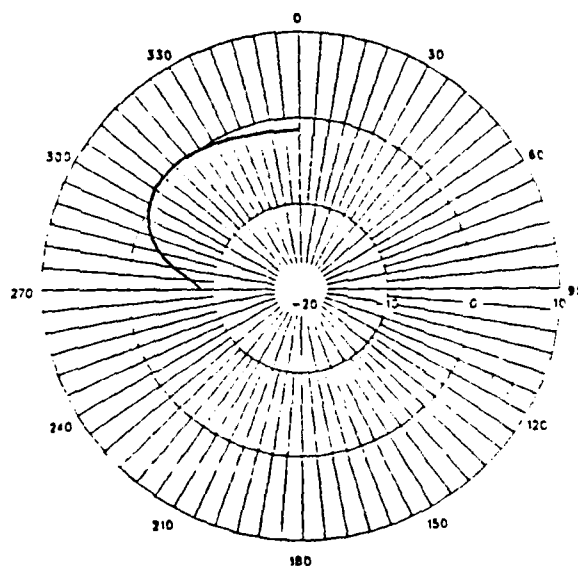
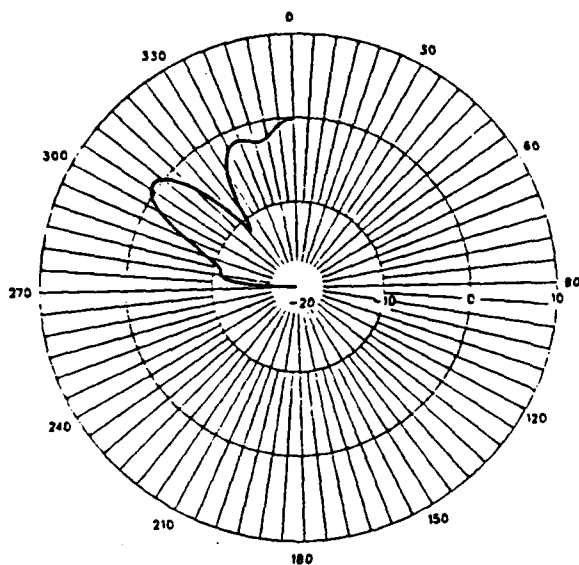
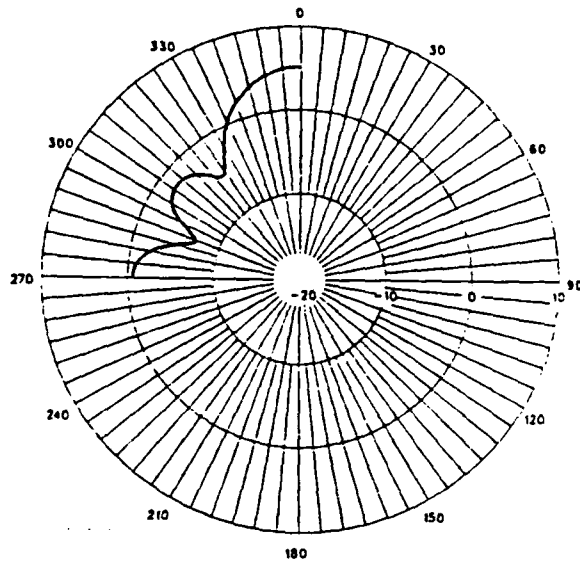


Figure 307. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 27 MHz

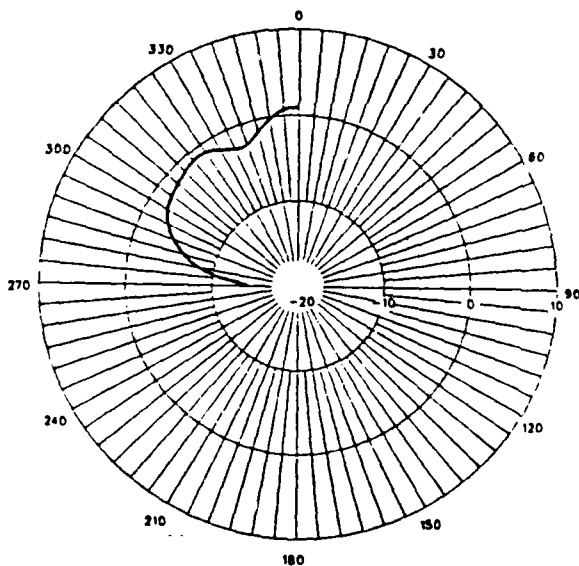
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

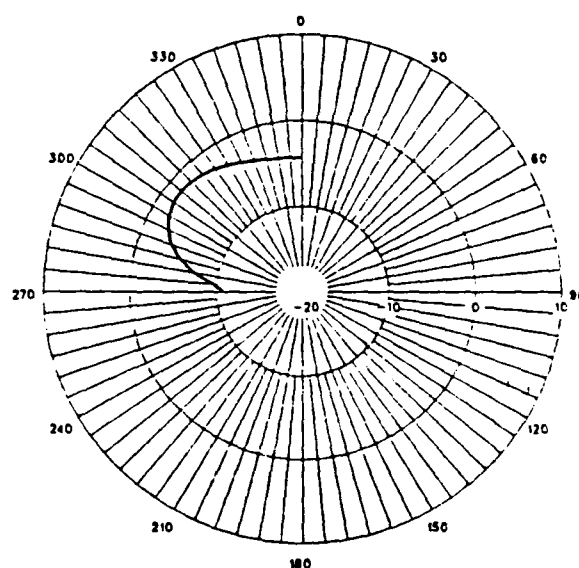


Figure 308. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 27 MHz

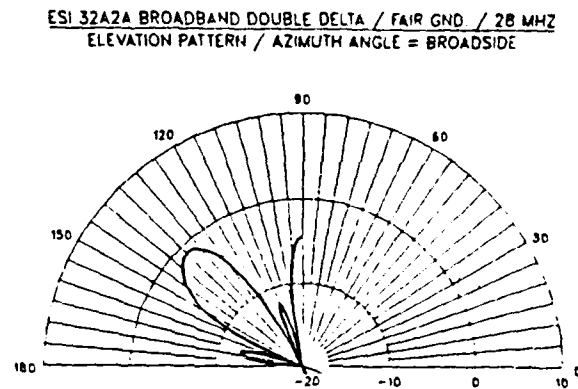
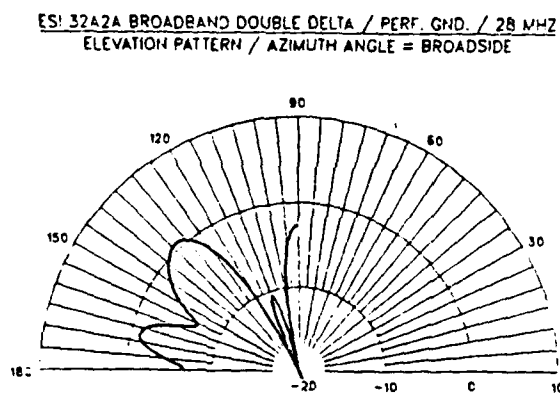
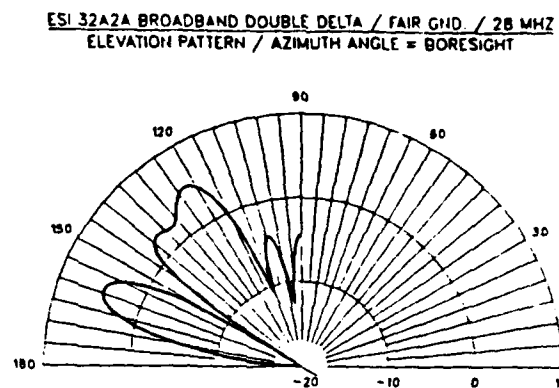
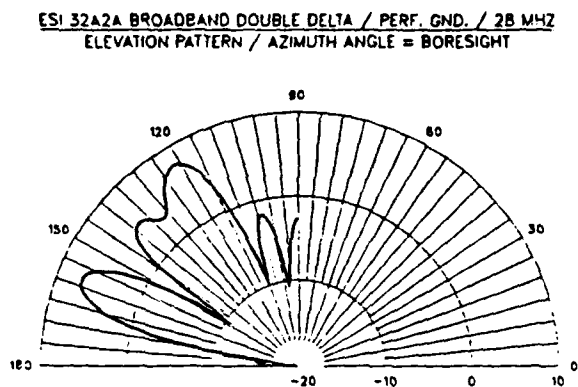
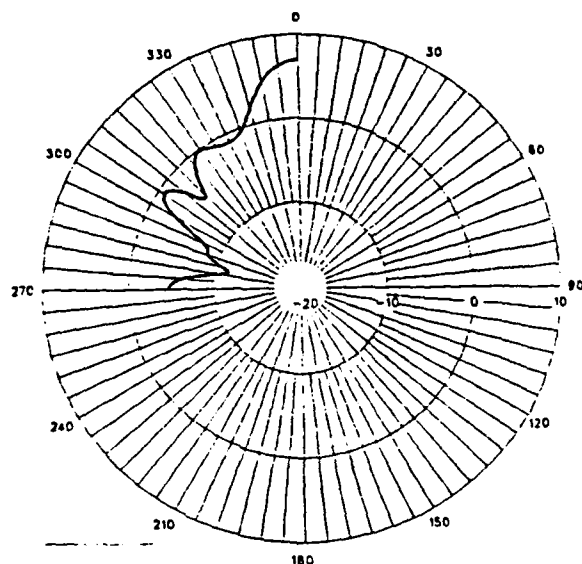
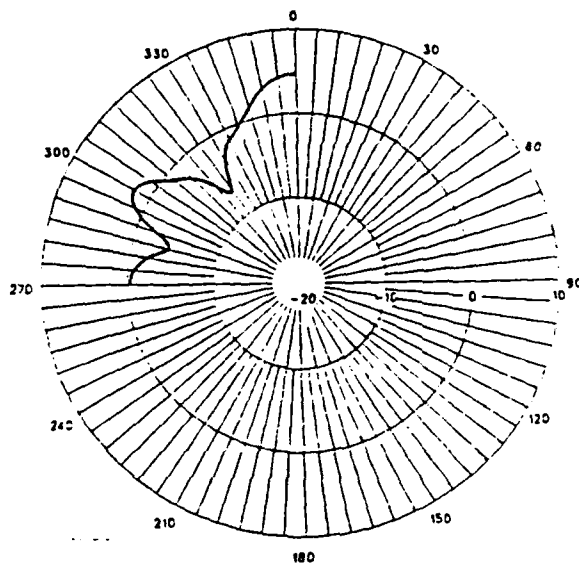


Figure 309. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 28 MHz

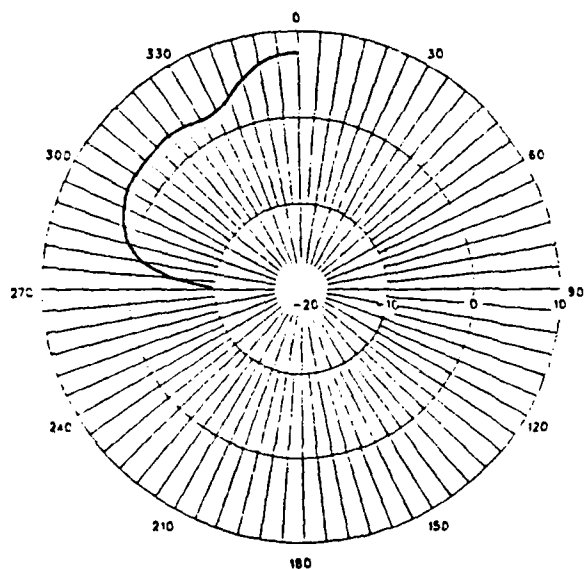
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

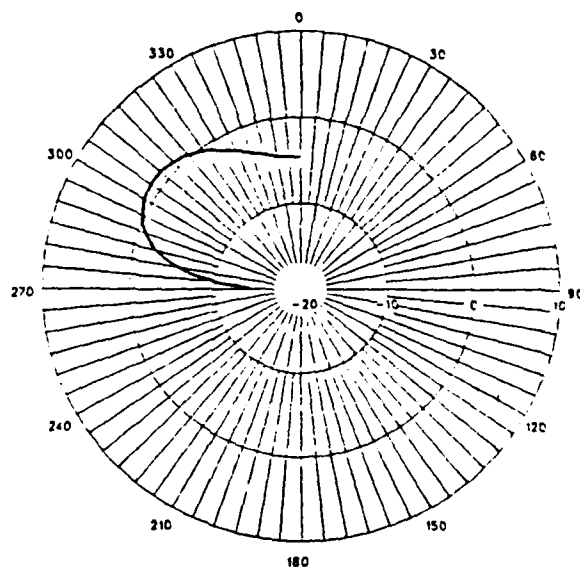
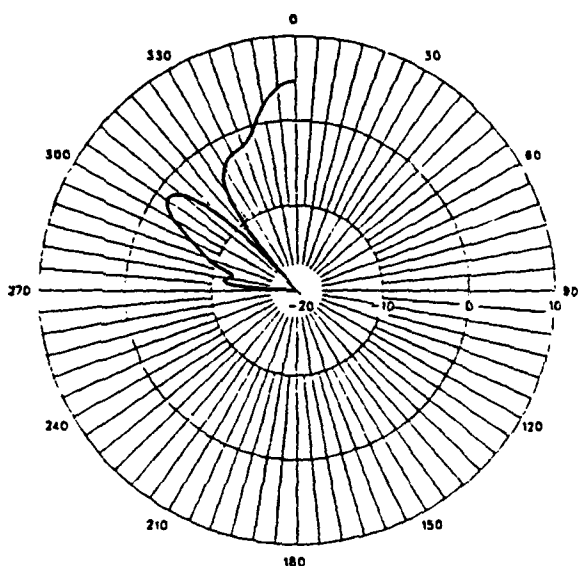
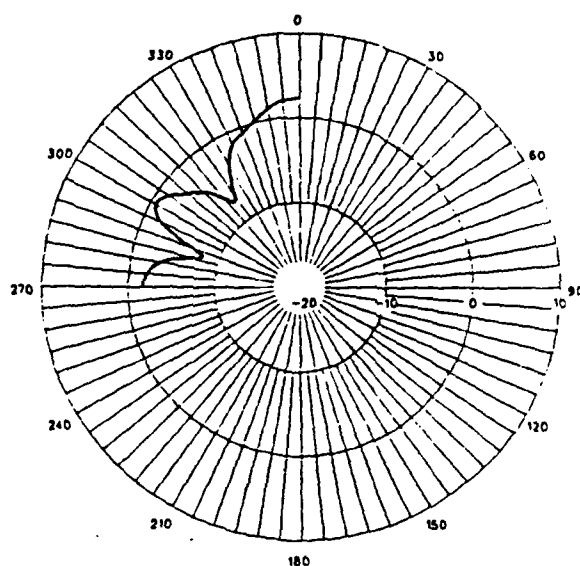


Figure 310. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 28 MHz

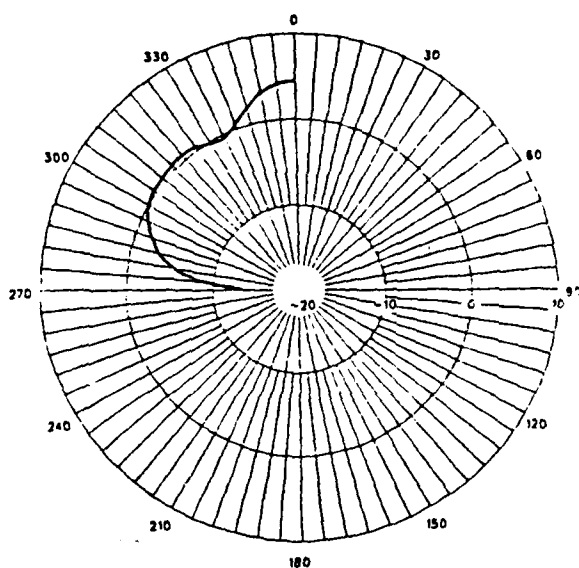
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

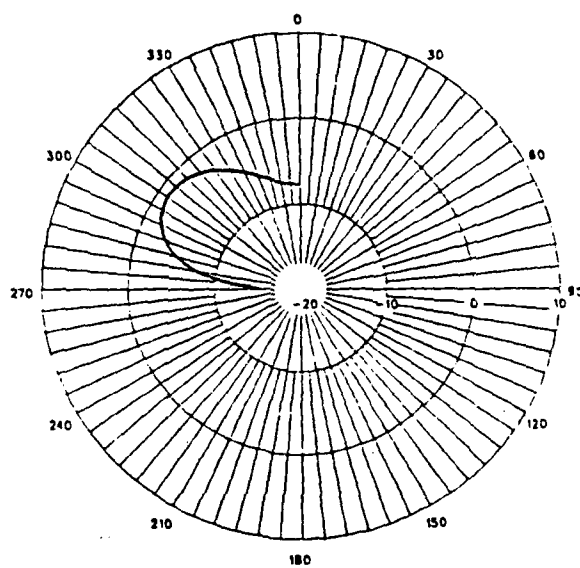
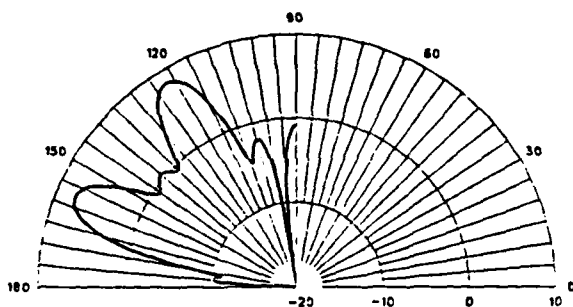
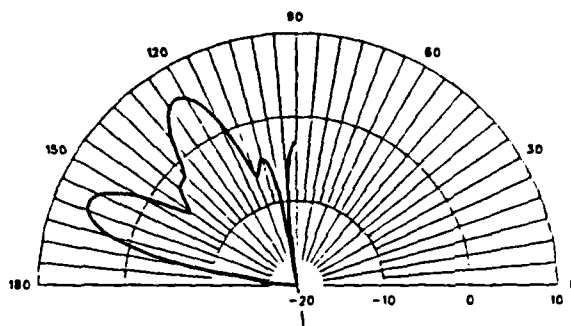


Figure 311. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 28 MHz

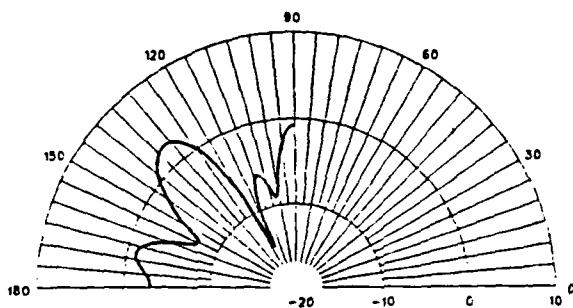
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 29 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 29 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 29 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 29 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

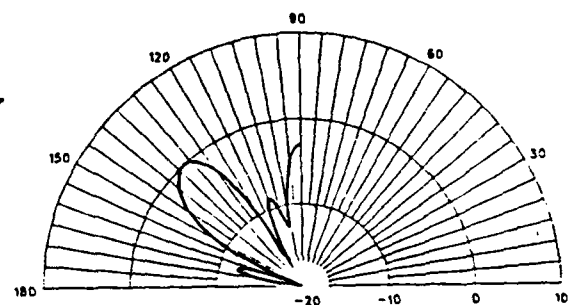
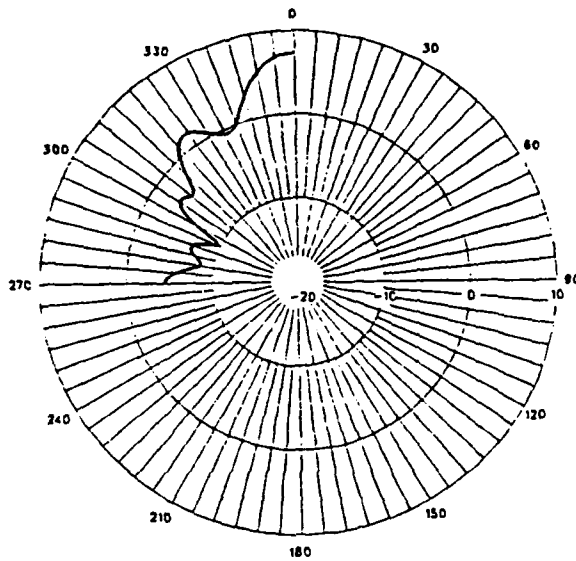
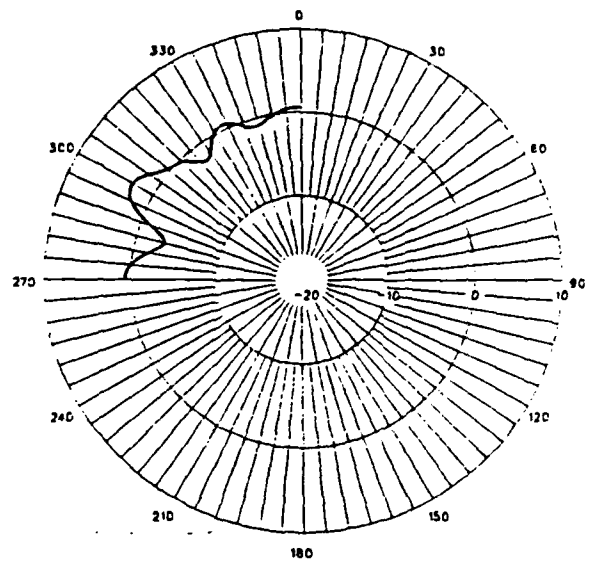


Figure 312. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 29 MHz

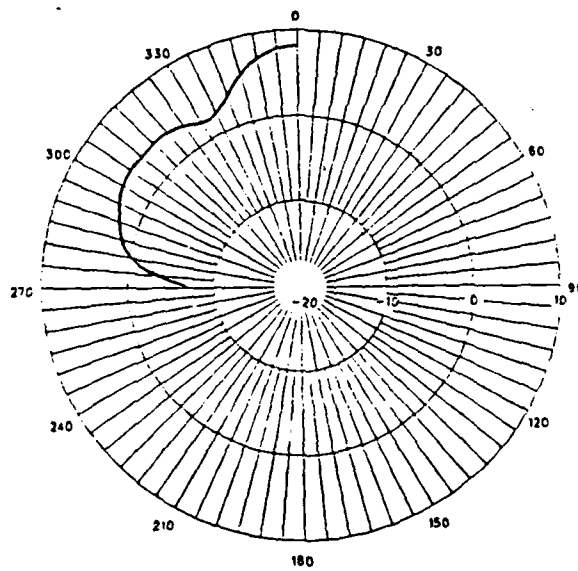
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 29 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 29 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 29 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 29 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

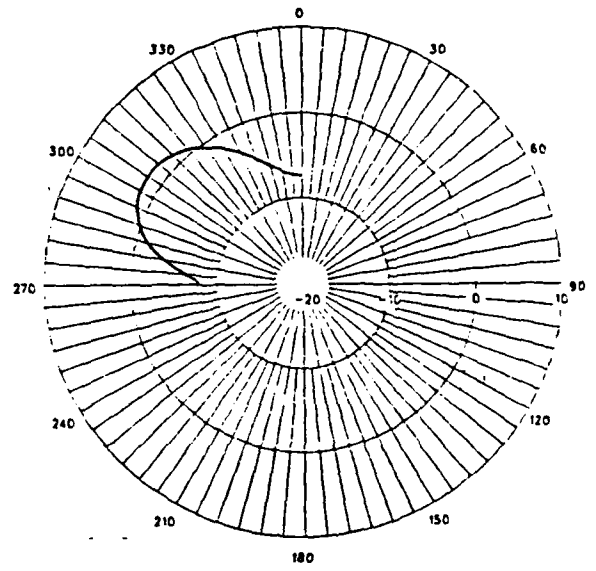
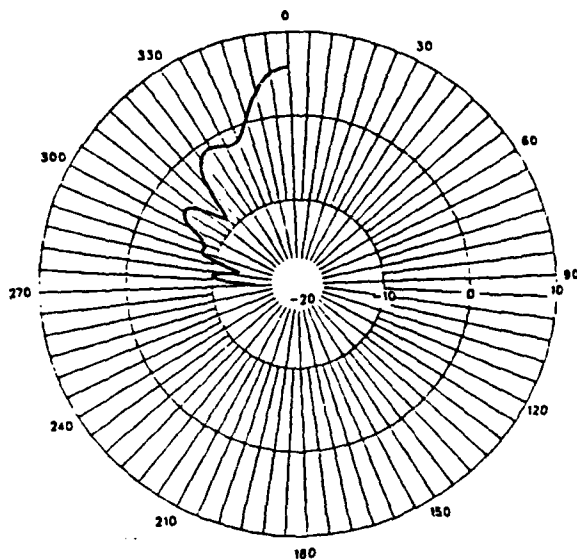
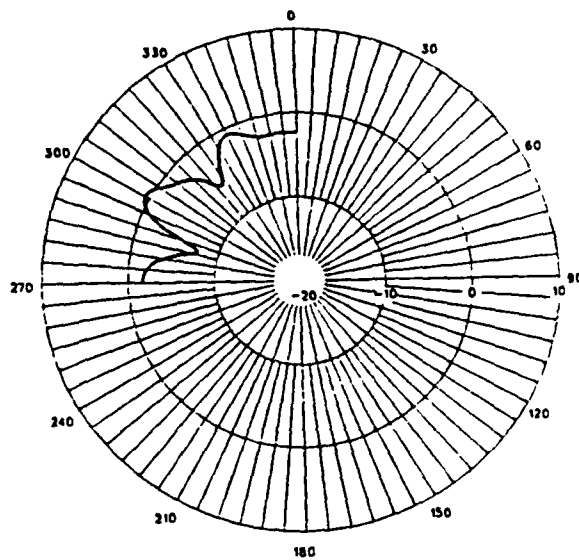


Figure 313. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 29 MHz

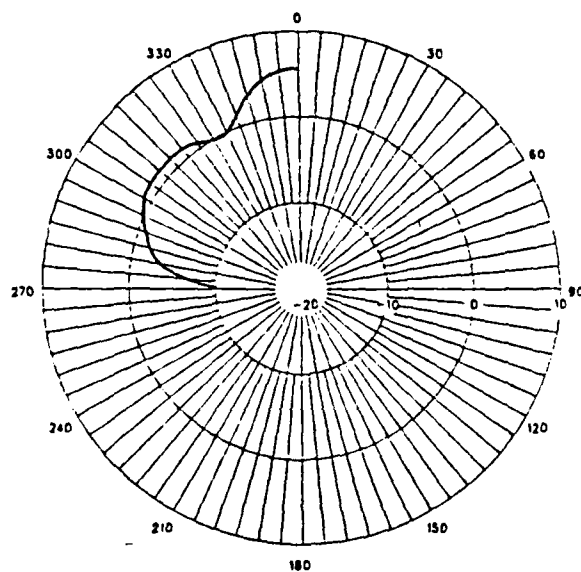
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 29 MHZ
 AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 29 MHZ
 AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 29 MHZ
 AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 29 MHZ
 AZIMUTH PATTERN / ELEVATION ANGLE = 80

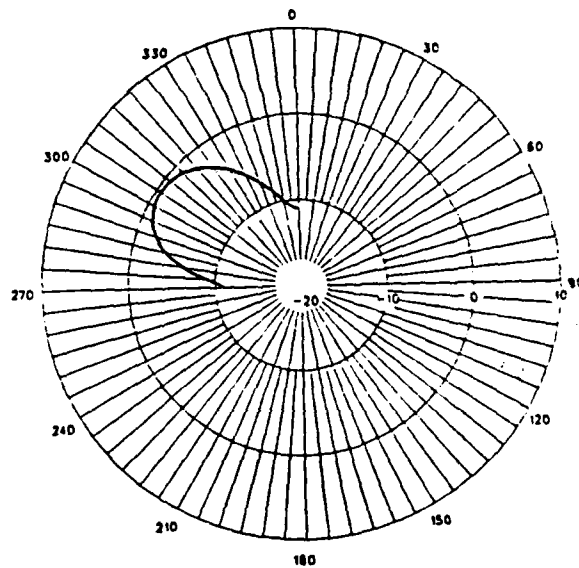
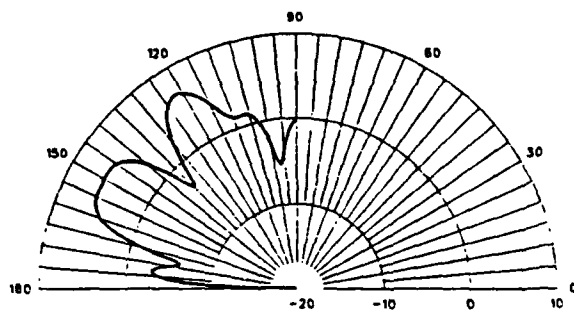
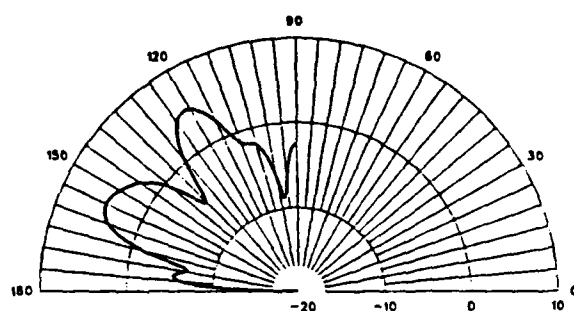


Figure 314. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 29 MHz

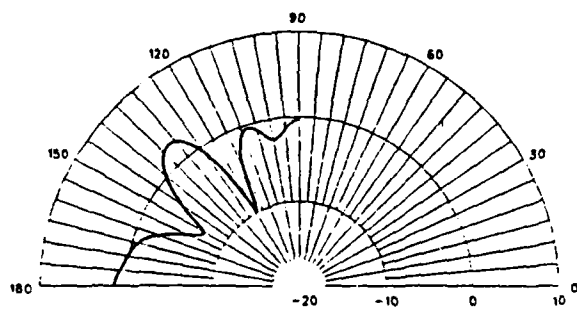
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 30 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 30 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 30 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 30 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

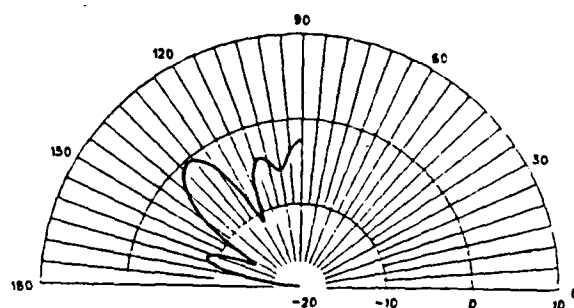
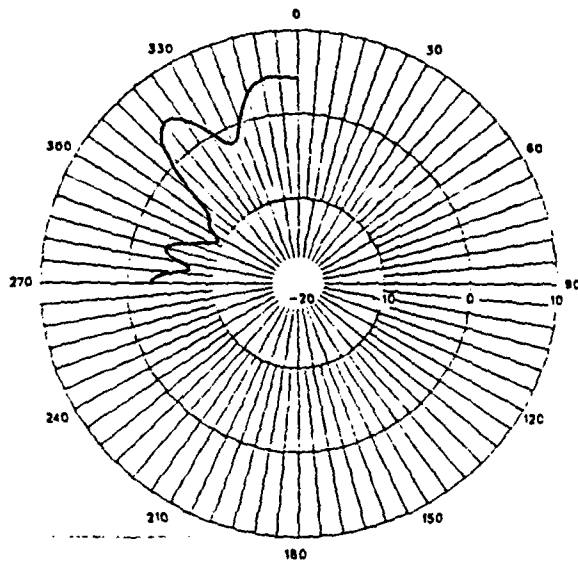
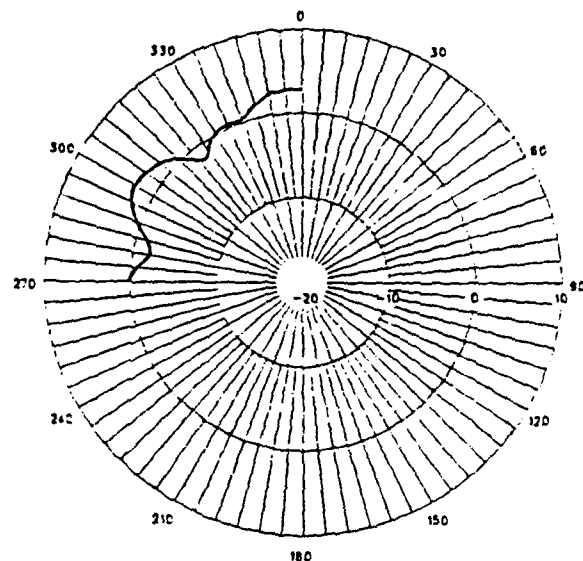


Figure 315. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 30 MHz

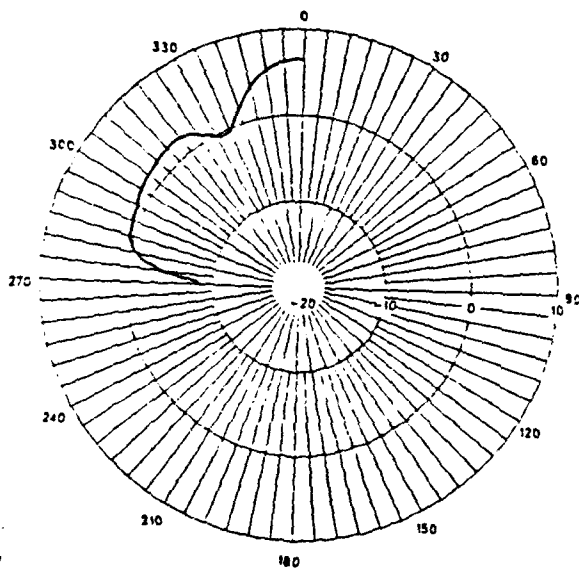
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

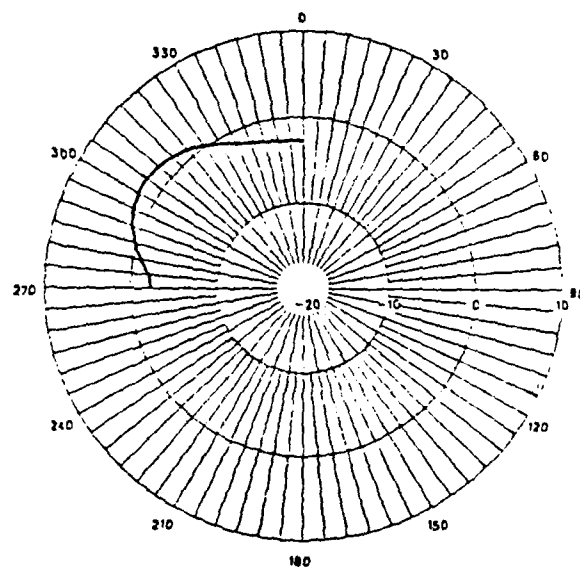
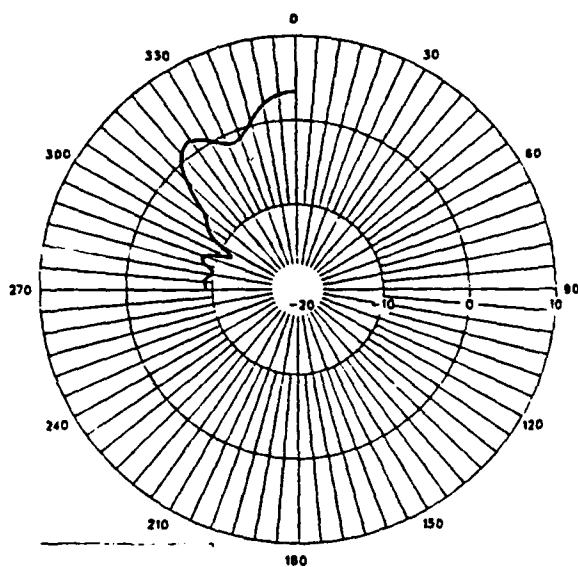
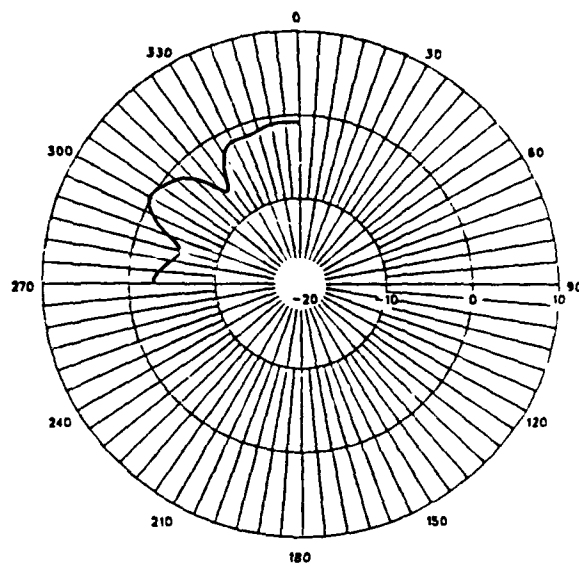


Figure 316. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 30 MHz

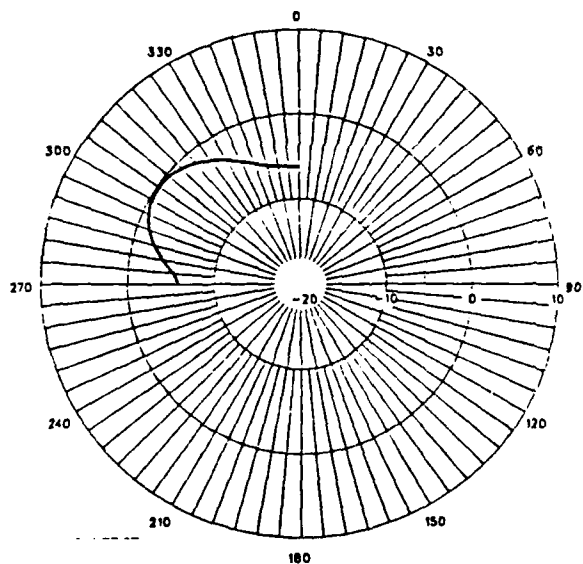
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60

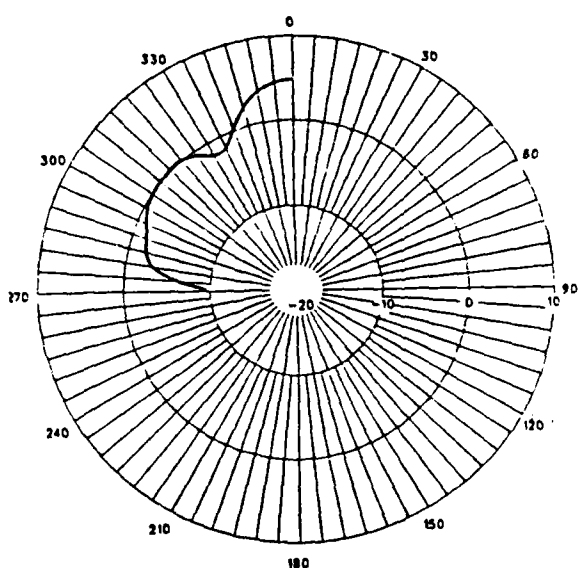


Figure 317. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 30 MHz

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